Montana Outdoors

Nov./Dec. 1980
One Dollar

Montana Outdoors
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THE COVER: Hunters, naturalists and artists have always been strongly attracted to the waterfowl, such as the widgeons so beautifully portrayed in Robert Kercher's wrap-around cover watercolor. This love affair is evidenced by the growing interest in decoy carving and collecting, waterfowl art shows and auctions, and state and federal duck stamp competitions. Today, more and more people are discovering that they can hold forever the sights of the duck marsh—through paintings like those on the cover and in "A Montana Waterfowl Portfolio" (page 16). In this issue, Kercher, John Michael Marion, Bob Elgas, Jim Wantulok and Ron Jenkins have accurately captured the elegance, color and beauty of some of Montana's waterfowl.

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The Director's Column

This issue of *Montana Outdoors* marks the 10th anniversary of the magazine's existence in its present format. The publication grew out of several earlier department efforts: "The Bighorn," published in the 1920s; "Montana Fish and Game Notes," published in the late '30s; "Montana Wildlife," first a tabloid published from the late '20s into the early '30s and then a magazine published intermittently in the '50s, to its immediate predecessor, *Montana Outdoors*, a black and white magazine published monthly from May 1966-October 1970.

The magazine, in its various forms, has undergone many changes over the years, but the objective has remained the same: To provide up-to-date information about wildlife conservation, to explain department policies and programs and to explore problems affecting the fish, wildlife and parks resources.

Response to *Montana Outdoors* from you, the readers, has always been enthusiastic; this loyal support has been a source of pride and encouragement to department employees over the years. Last year, *Montana Outdoors* was rated among the top five state conservation magazines in the country in an awards competition sponsored by the Association for Conservation Information, a fact of which we are proud, and one we hope you will appreciate too. Our goal will be to publish an even more informative, attractive and enjoyable magazine in years to come.

While anniversaries are a time to savor pleasant memories from the past, they are also a time to look ahead into the future. Unfortunately, the future for the Montana Department of Fish, Wildlife and Parks does not look very bright. Despite budget cuts already under way, the department is facing an unprecedented shortage of operating funds (see article on page 7). Inflation has badly eroded the buying power of the department's primary source of funds: hunting and fishing license revenue.

When the last license fee increase was granted by the Legislature in 1976, no one anticipated that the buying power of the dollar would decline so sharply in a few short years. The result has been a situation where escalating costs have outpaced license revenue income.

The department must and will do all it can to cut back on expenditures in the difficult years ahead. In preparation, some job vacancies have been left unfilled, travel and field activities have been curtailed, and equipment purchases have been restricted. Plans to build a badly needed headquarters facility in Missoula have been postponed.

The upcoming Legislature will be asked to consider methods of solving the department's financial dilemma. The most promising short-term option is a revised license fee structure, although, if the resource management job continues to grow in complexity, alternative sources of funding may soon be necessary.

In its almost 80 years of service to Montana's sportsmen and recreationists, the department has grown from a handful of employees to a substantial work force of well-trained and highly skilled biologists, wardens and resource managers. As Montana's population and economy have grown, the complexity of managing the fish, wildlife and parks resource has grown enormously. Outdoor recreation has become a vital industry, pumping millions of dollars into the state's economy each year.

If the department is to continue adequately managing Montana's outdoor resources, and if it is to continue providing the programs and services to Montana's sportsmen and recreationists that it has in the past, an increase in funding is imperative. Without it, department programs will have to be severely curtailed—at a time when pressures on these resources are rapidly growing.

In a very real sense, the fate of the Montana Department of Fish, Wildlife and Parks—and the resources it is charged with protecting—is up to you.

Keith P. Colbo

There Are 10 Candles On Our Birthday Cake

compiled by Kay Ellerhoff

When the *Montana Outdoors* staff was considering how to commemorate the magazine's 10-year anniversary, it was decided that the old-timer in years of service should put together the paragraphs which follow. My words describing the magazine's involvement in events which marked the decade are hopelessly inadequate. In such a short space, I could not begin to touch on some of the crucial issues which were debated, some of the remarkable pieces of prose which graced our pages, some of the inspiring art and photography which enhanced the words.

When I joined the staff in January 1973, *Montana Outdoors* went to approximately 20,000 paid subscribers. Today, that figure is closer to 40,000. The articles are mostly written by department employees whose basic job responsibilities are elsewhere. Much of our art and photography comes from a dedicated group of free-lancers who receive only a credit line and our gratitude. This is perhaps the time to thank all of them—department employees and free-lancers alike—who have made 10 years of publication possible.

From 1970 through mid-1978, the magazine was guided by Bill Schneider. There are those who found his irascible brand of genius difficult. There are those who gave their admiration grudgingly. But few could fail to acknowledge that he put out a magazine that was always exciting to read.

We are often asked what it is we do "down here." Editor Dave Books arrived in May 1978 and he does what most editors do: struggles with editorial plans, article assignments, budgeting, contracts, correspondence and administrative chores. He writes and edits less—and spends less time in the Montana outdoors—than he wishes he did. Donnie Sexton became our "pictures" lady in January 1974. Her creative talent is seen throughout our pages, she is responsible for the layout and camera-ready paste-up for each issue and she also acts as the magazine's liaison with our talented photographers and artists. Circulation duties and secretarial tasks have been cheerfully and ably handled by Sheila Bradt since March 1978. Basically, I am involved with the "words" side of producing the magazine: I edit many of the articles, read proofs and camera-ready copy, work on editorial plans and help Dave whenever needed.

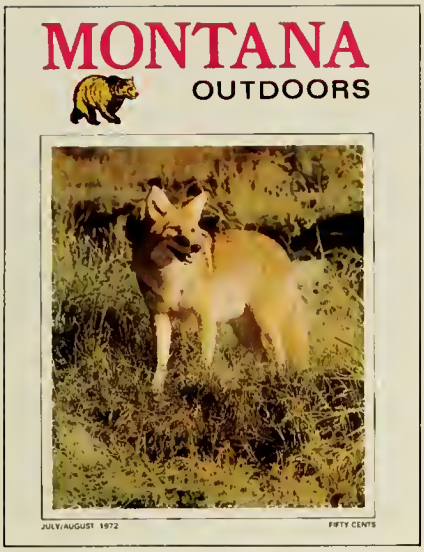
We are, then, a full-time staff of four which fortunately communicates effectively with one another, both on professional and personal levels. I say "fortunately," because it is the plight of most magazines to be always behind. When it's Tuesday and the magazine has to be at the printer's by the following Wednesday—and there are three major articles not yet set in type, the index is unwritten and there are 23 gallies of proofs waiting—that's when giving up the weekend with humor and grace, the old-fashioned idea of camaraderie and the spirit of working toward a common goal come into focus.

What would my wish be if I were successful in blowing out all 10 candles? I shouldn't tell—but of course it would be for another 10 years of publication.—*Kay Ellerhoff*

1970-71 *Montana Outdoors* came into the world with four colors and 36 pages in November 1970. With a staff of one—Bill Schneider, editor—the magazine explored problems at the Beartooth Game Range, the state's right to manage resident wildlife, landowner/sportsman relations and access problems—topics generating their share of discussion a decade later. The cover featured *Ursus horribilis*, the grizzly bear, and the lead story on the magnificent beast underscored the fledgling publication's motto: "A livable environment for wildlife is a quality environment for man."

The price for the new magazine was right: The first four issues were considered a "public service" and were free. Response to the new publication was overwhelming, and the entire press run of Vol. 1, No. 1 was quickly exhausted. During the year, readers commented on the "beauty" and "quality" of the new publication, the "brilliancy" of the photos, the features with a "positive punch." Under the headline, "Worth Strutting About," one reader wrote: "You can be as proud of *Montana Outdoors* as the strutting male sage grouse on the front cover of your March/April [1971] issue."

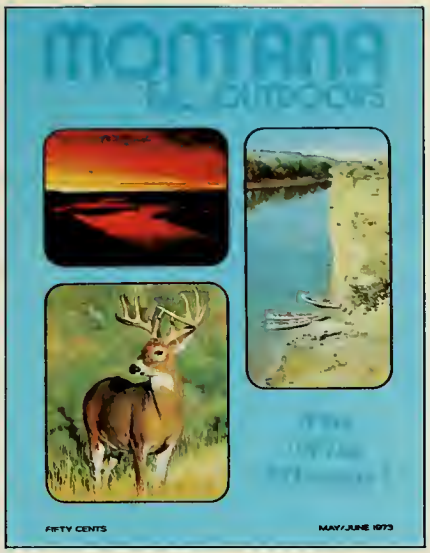
By the end of 1971, the staff had expanded to include an editorial assistant and a circulation manager.



1972 In 1972, the anti-hunting sentiment growing across the country was a key issue. In *Montana Outdoors'* first movie review—a review of "Bless the Beasts and Children"—Editor Bill Schneider wrote that such movies hamper conservation of natural resources, especially wildlife. He warned that if films of this sort help swing public opinion in favor of stricter gun control, "the hunter's century-old conservation effort could be crushed," since much of the money used in conservation work comes from taxes on guns and ammunition. Schneider cautioned: "In view of all this, the American hunter [could] very easily consider himself an endangered species."

The May/June magazine, with a special feature on "Montana Mushrooms," became one of the most popular ever published. The section—later reprinted—captured the fancy of readers everywhere.

Several major features were devoted to predators, including an entire section in the July/August issue: the lead article about calling predators and hunting as a means of predator control, recent developments and confusion about animal control laws, the official department position on predator control and some insights and logic about predator control from Aldo Leopold. The cover copy for the issue noted that, although "not the only criticized predator, the coyote is certainly the most controversial of western carnivores."



1973 If 1973 had a "big" story, it had to be coal. A four-part series ("The Big Sacrifice," "Be Glad You Aren't an Antelope," "Putting Montana Back Together Again," "The Second Battle of the Rosebud") explored, beginning in the Jan./Feb. issue, the potential impacts of "the upcoming extraction of billions of tons of 'black gold' and the subsequent industrial development slated for eastern Montana" on nationally famous fish and wildlife resources.

Three pieces of far-reaching environmental legislation were passed by the 1973 Montana Legislature: the Montana Strip Mining and Reclamation Act, the Montana Water Use Act and the Montana Utility Siting Act.

And in an editorial, "Keep the River Wild," accompanying the May/June cover story on "The Wild Missouri," then Information Bureau Chief Steve Bayless wrote: "With the development of southeastern Montana coal reserves and associated power plant construction, any additional hydro project on the Missouri appears as nothing more than a devoted effort by a few . . . to remove for all time one of the last vestiges of native and natural river environment in Montana."

Bayless concluded, ". . . we're fortunate to have the *last* remaining stretch of the 'wild' Missouri, unaltered, free-flowing and deserving of our attention. Let's keep it that way."

1974 The first issue of 1974 tackled the controversial subject of development of rural land for homesites in "The Subdividers are Coming, The Subdividers are Coming, The Subdividers are Here." The article brought an unparalleled response from readers—the letters ran about five to one in favor of the article. So several pages in the May/June letters section were turned into a readers' forum, "Subdivisions—Which Side Are You On?" A second part of the article in that same issue announced: "The Subdividers Are Still Here."

A series of diverse Recreation Guides was inaugurated in 1974: "Ice Fishing," "Wildflowers" and "The Winter Wilderness." In the March/April issue, *Montana Outdoors* readers were privileged to share the late Harmon Henkin's wit, humor and fishing savvy in a delightful piece doubling as that issue's Recreation Guide, "The Bicycle—Can It Ever Be the Fisherman's Best Buddy?" Mr. Henkin's answer: Certainly, ". . . cycling . . . to battle with trout seemed a harmonious thing to do. . . ."

A highlight of the "picture" side of the year was production of "Big Game Scenes for Framing" in the Sept./Oct. issue. The elk silhouetted against "The Hunter's Moon" proved that such a moon casts a strong—and welcome—spell on sportsmen.

1975 The March/April issue carried a nine-page color tribute to "Eastern Montana" which caused a Birney, Mont. reader to comment: "The very name 'Montana' brings to mind images of trout, big game hunting and splendid scenery. This issue with its excellent photographs shows that our eastern end of Montana has not been shortchanged.

"Also, the articles concerning energy demands and development in eastern Montana are most timely. I appreciate your willingness to speak out on any subject which poses a threat to your responsibility—wildlife and its habitats. . . ."

Montana's water and fishery resources received their share of coverage, with articles about the Tongue River, catfish and shovelnose sturgeon; details of a study on Flathead Lake utilizing the department's research boat, the "Dolly Varden"; a report "On the Care and Feeding of Lakes," and another in the continuing series of Recreation Guides, this one featuring "Fly-Fishing."

Since finding, eating and preserving the wild mushroom continued to pique readers' interest, we responded with a cover story, "Mushroom Fascination." Readers particularly enjoyed the tempting recipes and helpful references.

1976 Without doubt, 1976 will be remembered as the year of the Bicentennial, when everything was red, white and blue, at least in intent. *Montana Outdoors* followed suit: with "Montana Wildlife—170 Years Ago." As writer Ken Walcheck pointed out, the expedition of Meriwether Lewis and William Clark carried the destiny and the fate of a young and vibrant nation with it. Walcheck returned to the explorers' journals and delved into other sources in order to catalog the group's observations of wildlife in Montana. He prepared what we believe to be a first: a series of maps on which were noted by date the mammals, birds, fish and reptiles which Lewis and Clark and members of their expedition sighted in Montana. The maps provided a comprehensive picture of the scope of the expedition's observations and a valuable means of comparison for today. As they were charged by President Thomas Jefferson, Lewis' and Clark's Corps of Discovery did, in fact, "advance the information of the succeeding generation."

Another Walcheck article traced the life history of the Merriam's turkey—"The American Emblem That Almost Was." In spite of some heavy lobbying by Benjamin Franklin, the bald eagle beat the turkey by a single vote and went on to become our national emblem.

1977 In the Jan./Feb. "Director's Column," Wes Woodgerd paid "A Small Tribute" to the many individuals and organizations who worked to preserve the Missouri River in "all its free-flowing splendor." He expressed appreciation and a deep feeling of gratitude to the late Sen. Lee Metcalf whose bill made the Missouri River Breaks section part of the National Wild and Scenic Rivers System. Woodgerd noted that the Senator's "persistent efforts on the Missouri's behalf are legend." He mentioned many others, among them long-time aide to Sen. Metcalf, Teddy Roe; Mike Mansfield; John Melcher; Joe Klabunde, and the Montana Wildlife Federation.

The Missouri was not the only river receiving its due in 1977. For the first time, an entire extra issue was devoted to one topic—the Yellowstone River—to emphasize its incalculable value and the importance of the department's flow reservation. As Jim Posewitz wrote of the deliberations: ". . . They will determine whether the Yellowstone will remain free or whether it will become just another dammed river."

The wild rose on the Jan./Feb. front cover was one of the many photographs given to *Montana Outdoors* over the years by the late Danny On. Such pictures are a fitting memorial to someone whose name was synonymous with excellence in wildlife and outdoor photography.

1978 The Jan./Feb. issue opened 1978 with some questions about wilderness: What is it? Is it good for wildlife? How does wilderness designation affect outdoor recreation? Specifically, how does it affect hunting? The article taught a valuable lesson: There are as many answers as there are respondents. Jim Posewitz and Tom Hay wrote in the issue's lead article: ". . . under today's strains and constraints, wilderness is often the safest option to preserve Montana's truly wild communities and the quality of man's opportunities related to them."

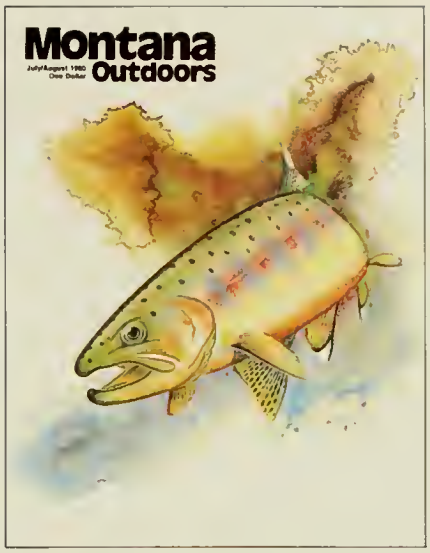
Other events marked the year: Art Whitney, administrator of the department's Fisheries Division, was elected president of the American Fisheries Society. Dr. W. Leslie Pengelly, a former Fish and Game Commissioner, was named president of The Wildlife Society. And with the July/August issue, Editor Bill Schneider went on to other challenges, and Dave Books, former editor of *Western Wildlands*, assumed the magazine's editorship.

A Special Parks Issue was published. A helpful feature was a map insert, "Montana Recreation Guide," containing information and the location of the state's parks, monuments, recreation areas and fishing access sites. The state's "newest" park that year was "Wild Horse Island: Jewel of the Flathead." The bighorn ram on the Nov./Dec. cover was part of the herd inhabiting the picturesque island.

1979 "Diversity" was perhaps the key word in 1979. For example, a series on nongame animals which began in 1978 continued, reporting on species as diverse as the northern water shrew and the bull snake. Several pieces covered Montana's birds: shorebirds, cavity nesters and the Canada goose—memorably captured by another outstanding example of Ron Jenkins' artistry on the Sept./Oct. cover. A popular series of articles in Nov./Dec. re-proved that dogs are indeed "More Than Man's Best Friend."

Several previously covered topics were revisited. "Toward a Better Understanding" updated the activities of the Landowner Relations/Sportsman Access Advisory Council. Although Montana's fishing records annually appear in the May/June issue, Mike Aderhold dug deeper and put together world records, as well as those from nearby states and Canadian provinces.

The Special Parks Issue sparked a deluge of letters praising its coverage of outdoor recreation possibilities and calling it "welcome," "timely" and "informative." And even if cross-country skiing across the Bob Marshall might not be everyone's notion of the ideal way to spend Christmas, Steve Gilbert gained a new appreciation of Montana's winter recreation opportunities, as his front cover photo and article in the Jan./Feb. issue proved.



1980 *Montana Outdoors* began the '80s with a detailed examination of species survival. A six-part series in the Jan./Feb. issue probed "The Riddle of Existence" for: "Fishes of 'Special Concern,' " "Our Smaller Cohorts," "Montana's 'Rare Plants,' " "Audubon Bighorn Sheep," "Passenger Pigeon" and "Montana's Endangered Species." With varying success, the aforementioned have either solved—or failed to solve—the riddle.

The purpose of the Special Hunting Issue published in February was stated in "The Editor's Column" by Dave Books: to provide factual information about hunters and hunting, but even more important, "to call for unity among those who truly care about the future of our wildlife heritage." Many cared. Readers called the issue a "classic" and a Seattle resident wrote that she was "impressed, mainly because the approach to and arguments for hunting were intelligent" and ". . . there wasn't any name-calling." Ten months later, letters lauding the Special Hunting Issue are still arriving.

Among the fishes sharing the spotlight in 1980 were the killifish, Dolly Varden, Missouri River paddlefish and perhaps "the most radiantly beautiful of them all," the golden trout. Glenn West's July/August cover painting of the "fish-shaped sunbeam" proved the golden has few rivals. ■

This year put a Christmas gift under the tree that will open the door to a world of knowledge about:

elk
deer
parks
rabbits
forestry
antelope
cottontails
game birds
mushrooms
grizzly bears
outdoor safety
winter survival
yellowstone river
edible wild plants
habitat destruction
cross-country skiing
aquatic invertebrates
cooking the wild berry
montana fishing records
land acquisition program
elk and logging practices
fascinating photo features
gardening without pesticides
montana's historical treasures
landowner/sportsman relations
nongame wildlife management
trout
ducks
energy

MONTANA OUTDOORS is the answer!

The Catchall

DFWP Faces Financial Crunch

The Montana Department of Fish, Wildlife and Parks (DFWP), like households and businesses across Montana, is feeling the pinch of inflation. However, unlike most businesses and other agencies, the DFWP has no way of automatically increasing the amount of license revenue coming in each year. The department cannot increase license fees by its own action—this can only be done by the state legislature.

The sale of hunting and fishing licenses provides the financial base for almost all of the department's activities. It is these licenses—not taxpayers' dollars—that pay for fish and wildlife management. Without an increase in the price of licenses, or an increase in the number sold, the DFWP remains on a fixed income while inflation continues to gallop ahead.

Revenue from license sales has not increased in proportion to inflation since the last license fee increase was granted by the legislature in 1976. Relative *buying power*, based on the Consumer Price Index (a standard measure for comparing the buying power of the dollar from year to year, based on a dollar being worth a dollar in 1967), has declined considerably (see table).

For example, an elk, deer and conservation license currently costs a resident hunter $16. According to the Consumer Price Index, the buying power of this $16 in 1976 was $8.82. At present, that same $16 has a true buying power of only $6.40. In fiscal year 1978, department income from license sales was almost $7.5 million; based on the Consumer Price Index, its true buying power was slightly less than $4 million. In fiscal year 1980, license sale income was around $8.3 million, but its true buying power was only $3.3 million.

If this trend were to continue—and in the absence of an increase in the number of licenses sold, an increase in the license fees, or drastic cutbacks in department programs and services, it would continue—the department would be several million dollars in the red by June 30, 1982. In reality, the "drastic cutbacks" option would be used to keep the department from going into deficit spending.

In anticipation of hard times ahead, the DFWP has already begun to cut expenditures. Six game warden positions have been left vacant, and warden travel in most instances has been restricted to 1,000 miles per month (compared with the 2,000-4,000 miles of patrolling some officers used to do). Wildlife managers have reduced their flying time for such things as big game population inventories (the basis for setting seasons) and wildlife research. Energy conservation measures have been undertaken in an effort to save both fuel and money (see related article elsewhere in this section).

The question is: How far can the department cut back on expenditures and still adequately protect the state's wildlife resources? Can it continue to provide the public with the services it is accustomed to receiving? The answer is no.

The management job the department faces grows more complex each year, as do the services requested by the public. Obviously, a revenue source that was adequate in 1976 is no longer adequate, and will result in negative impacts on Montana's fish, wildlife and parks and their users.

Looking farther ahead, it is also apparent that the license buyers cannot be expected to foot the bill indefinitely for the rising costs of resource management. The benefits of fish, wildlife and parks management are enjoyed by others as well, and alternative sources of funding are necessary.—*Tom Mussehl, wildlife biologist/planner, Wildlife Division, Bozeman; Bill Pryor, Region 5 (Billings) information officer*

$ FISHING AND HUNTING LICENSE INCOME, AND ITS RELATIVE BUYING POWER $

Fiscal year	License income	Relative buying power, based on Consumer Price Index
1976	$6,785,465	$3,979,745
1978	7,466,184	3,820,974
1980	8,307,467	3,322,987
1982 (est.)	8,461,500	2,848,989*

*Assumes an inflation rate of 10% in 1981, and 8% in 1982.

Ex Officio Progress Report

Click! ". . . and now with the KGRZ news, here's Bob Borino."

"Thank you, and good morning. In the news this morning. . . ."

As I rolled out of bed and parted the curtains to check the weather, I couldn't help but feel a twinge of excitement. It was 5 a.m. and today was the opening of the deer and elk hunting seasons in western Montana. Throughout the 20 years I've hunted, opening day has always held a special excitement for me—but today I had a new kind of opening-day "jitters."

Taking another gulp of warm coffee, I laced up my boots, grabbed my tattered orange vest and hurried out to the truck. I hesitated: "Do I have everything?" A quick mental check—my knife, lunch, wallet, a heavy coat and my binocs—everything I needed.

As I followed a string of taillights out of town, I was going over my mental check list once again when I remembered with a jolt, "Oh, no! I forgot my rifle!" But my hysteria was interrupted by the crack of a voice over the radio, "FG 929? This is FG 220." My racing thoughts were snapped back to reality as I picked up the mic. and answered, "Good morning, FG 220. How are you this morning . . .?"

As the conversation ended, I realized this was the first year I was not going hunting on opening day. Instead, I would be assisting landowners and checking hunters as an ex officio game warden for the Department of Fish, Wildlife and Parks.

The ongoing ex officio program is the brain child of the Landowner Relations/Sportsmen Access Advisory Council, a group of ranchers and sportsmen working together to assist the department and the Fish and Game Commission in improving relations between landowners and sportsmen and attempting to resolve access problems. The council recommended giving department biologists and other ap-

RECYCLED PAPER

propriate personnel full authority to enforce fish and game and other laws. I am one of 147 department employees who has completed a training program that qualifies us to act as ex officio game wardens.

The week-long session included a review of fish, wildlife and parks laws; training in gathering evidence and rules for search and seizure; courtroom procedures, and people management. The instructors emphasized trespass and navigability laws. As the week progressed, it

became clear that the legal aspects of wildlife management are also very complex. Because of these complexities and the fact that ex officios have other job responsibilities, they are considered an addition to the existing full-time enforcement force.

The ex officio program has been successful—very successful, in fact. Landowners and sportsmen want additional field enforcement staff, particularly during hunting seasons, to help reduce property damage and vandalism to private property. With the ex officio program, the number of department employees afield with enforcement powers can be almost tripled. Landowners across the state have responded to this assistance by opening their land to hunting and fishing. A department estimate indicates that over 480,000 acres of land has been opened to sportsmen as a result of the ex officio program and other efforts by sportsmen and the department. In addition, almost 7 million acres of land has been kept open for hunting and fishing. Even though the intent of the program is not to write tickets, ex officio wardens have observed violations and have issued citations. A bonus of the program has been an improvement in the relationship between personnel within the department as they work together toward a common goal.

As successful as the program has been, its future is somewhat in jeopardy because of the economic plight of the entire department. All phases of the department's operations have been reduced and travel limitations resulting from financial problems and imposed fuel conservation will mean that personnel will not be able to assist landowners as much as they have.

The future of hunting and fishing on private lands across Montana has been given a breath of life through implementation of the ex officio program, but the continued success of it—and the future of sportsmen's access to private land—is being hamstrung by the inadequate financial situation of the entire department.

The drive home that evening gave me time to reflect on the day and to evaluate the effectiveness of the ex officio program from my perspective.

I felt good about the reactions of the 13 ranchers I stopped to see. They seemed to appreciate the fact that someone from the department was around to assist them. And the 60 hunters I talked to were impressed with the department's new enforcement effort.

All day long, I kept getting the feeling that both the landowners and the sportsmen had always expected this kind of enforcement effort. With the ex officio program, the department is coming closer to meeting their expectations.—*Bill Thomas, Region 2 (Missoula) information officer*

DFWP: Less Fuelish

In response to rising transportation costs and the need to conserve fuel, the Department of Fish, Wildlife and Parks has been taking a variety of energy conservation steps. Most noticeable perhaps are the new fuel-efficient vehicles bearing the department's grizzly bear emblem. New "replacement" vehicles received during spring 1980 include nine four-cylinder sedans and 17 two-wheel-drive and 11 four-wheel drive mini-pickups (four cylinders).

Last year the department was allocated 90% of the previous year's miles and 85% of the previous year's gasoline as part of state government's fuel conservation efforts. Those cuts were accomplished through improved travel coordination among employees, specific travel limitations and severe reductions of random field patrol and reconnaissance. Every effort has been made to continue necessary field work and to maintain service to the public. In some cases, it has simply not been possible to cut back on travel and to accomplish the desired work or to meet all requests from the public.

Other fuel- and cost-saving measures include:

- striving for improved driving habits by employees.
- using fuel- and cost-efficient personal cars on the job when feasible.
- using motorbikes where feasible to replace or supplement vehicles.
- using state motor pool vans to reduce the number of vehicles and fuel required for trips involving five or more employees.
- using synthetic oils and lubricants to increase year-round miles per gallon, to provide improved cold-weather operation and to decrease maintenance costs.
- using commercial transportation, including cross-state travel by bus.
- using propane-powered vehicles.
- increasing use of radial tires to improve mpg, safety and tire life.
- using cruise control to increase mpg.

These steps and conscientious efforts by department personnel are saving fuel and helping to defray some of the rising costs associated with statewide department operations.—*Tom Mussehl, wildlife biologist/planner, Wildlife Division, Bozeman*

Driving fuel-efficient vehicles and using motorbikes when possible to replace or supplement vehicles are two of the ways Department of Fish, Wildlife and Parks employees are attempting to become less fuelish and to lower transportation costs (DFWP photo: Harley Yeager).

Montana Outdoors Index

The following is a list of the major items published in *Montana Outdoors* in 1980. Extra copies of all 1980 issues are available at $1 each.

The following back issues of *Montana Outdoors* are no longer available:

1970, 1971—entire year

1972—Jan./Feb., March/April, May/June, Nov./Dec.

1973—Jan./Feb., March/April, May/June, July/August

1975—July/August, Nov./Dec.

1976—Jan./Feb., March/April, Nov./Dec.

1977—Yellowstone Special Issue

1978—March/April, May/June

Other issues are available in varying quantities at $1 per copy. Order from *Montana Outdoors*, Department of Fish, Wildlife and Parks; Helena, MT 59601.

ENDANGERED/EXTINCT SPECIES

The Riddle of Existence: Audubon Bighorn Sheep—A tangle of reasons exists for their disappearance. Jan./Feb. 1980

The Riddle of Existence: Passenger Pigeon—The earliest documentation of this bird in Montana comes from Lewis and Clark. Jan./Feb. 1980

The Riddle of Existence: Montana's Endangered Species—An update of department activities on behalf of the state's endangered species. Jan./Feb. 1980

Return to the Sky—The story of the recovery and return to freedom for a peregrine falcon. Jan./Feb. 1980

The Start of a Silence—Nobody is sure when Montana's last prairie chicken boomed its final farewell. March/April 1980

Is Its Number Up?—The whooping crane is now in better condition than at any time during this century. March/April 1980

FISH/FISHING

The Riddle of Existence: Fishes of "Special Concern"—14 fishes are especially vulnerable to elimination from Montana. Jan./Feb. 1980

Spoonbill—Found in the Mississippi-Missouri River system, the paddlefish is "Montana's most unusual sport fish." March/April 1980

Exotic Introductions: A Fishery Manager's Headache—What can happen when an exotic (alien) species is introduced into waters outside its natural range. March/April 1980

Some That Didn't Get Away . . . (and one that did)—1979 fishing records summary. May/June 1980

In Search of Native Killifish—O'Fallon Creek on the eastern Montana prairie is the scene for an exciting find by biologists. May/June 1980

Docile Dinosaur—The natural history of the salmon fly is a mixture of scattered facts and patchwork conjecture. May/June 1980

"A Fish-Shaped Sunbeam"—A colorful component of western fisheries history: the golden trout. July/August 1980

Increased Federal Funds for Fisheries?—New bills introduced into Congress propose expansion of the D-J Act. July/August 1980

Dolly Who?—Dolly Varden, that's who, also known as bull trout. Sept./Oct. 1980

GAME/HUNTING

Montana's Trophy Records—A list of Montanans holding records in the Boone and Crockett and Pope and Young tabulations. Jan./Feb. 1980

Behold the Hunter, Why Does Man Hunt?, To the Keepers of the Flame, Deer Mountain and the Conservation Cause, A Letter from Jean, The High Beyond, On the Wing, The Beast That Walks Like Man, To the Mallard, The Hunter's Role in Conservation, Tomorrow's Tradition, A Message to All Concerned for Wildlife, Nonconsumptive Users: A Myth, Going Up Under the Mountains, Something for the Kids—Special Hunting Issue. February 1980

Falconry: A "Perfect Hobby"—The primary motive of any falconer is a desire to train and watch his bird in flight. May/June 1980

Seventy Years of Relocating Wildlife—The history of Montana's trapping and

TO HAVE AND TO HOLD

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Calendar Discontinued

Because of financial cutbacks in the Department of Fish, Wildlife and Parks, there will be no Montana Wildlife Calendar in 1981. If you have already ordered the calendar from us, your money will be promptly returned. Also, plans for a third edition of "Savoring the Wild" have been shelved. We're sorry if discontinuation of either project causes any inconvenience. —*Ed.*

transplanting program. July/August 1980

"Hunting the Quiet Way"—A "how-to" guide to bowhunting. Sept./Oct. 1980

Play by the Rules and Enjoy the Game—Helpful information on hunting antelope. Sept./Oct. 1980

The Best of Two Flyways—Whether you hunt the Central or Pacific, Montana offers some of the best waterfowling in the West. Nov./Dec. 1980

Rattling for Bucks—Horn rattling can be a highly productive technique for bagging a good-sized buck. Nov./Dec. 1980

GENERAL INTEREST

The Riddle of Existence: Montana's "Rare Plants"—The U.S. Forest Service is identifying "rare plants" in Montana's 10 national forests. Jan./Feb. 1980

Colstrip: A Pleasant Surprise—The quality of the community affects the attitude of its residents. March/April 1980

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The Saga of George Drouillard—A jack of all trades who served with the Lewis and Clark expedition. July/August 1980

Strange Beasts in Our Backyard—Some of the world's most spectacular dinosaur fossils have come from Montana. July/August 1980

The Bones of Purgatory—Fossilized remains of a small primate have been found in eastern Montana's badlands. July/August 1980

Decoy Renaissance—A look at the hobby of hand-carving and painting decorative decoys. Sept./Oct. 1980

Tips for Wood Gatherers—Soaring fuel prices are resulting in more and more people using firewood from our national forests. Sept./Oct. 1980

The "Backcountry Concept": A Positive Viewpoint—A guest editorial. Sept./Oct. 1980

A Precious Christmas Past—A Christmas present that opened the door to some priceless experiences and values.

The Sagebrush Rebellion: Who Owns the West?—A complex situation where the key words are negotiation and compromise. Nov./Dec. 1980

There Are 10 Candles on Our Birthday Cake—*Montana Outdoors* celebrates 10 years of publication. Nov./Dec. 1980

HABITAT

Montana Wildlife: Sometimes a Nuisance—A few cases where wildlife and people don't mix. March/April 1980

Wildlife and Energy Development: Montana's Future Options—Exploring the potential for conflict between fish and wildlife values and large-scale energy development. May/June 1980

Resources in Conflict—Mineral exploration along the Rocky Mountain Front poses a potential problem for wildlife. July/August 1980

Water for the Future—Montana rivers can be preserved if you care enough to ensure that the laws protecting them are also preserved. Sept./Oct. 1980

NONGAME WILDLIFE

The Riddle of Existence: Our Smaller Cohorts—From the water world come the small "nuts and bolts that hold our ecosystems together." Jan./Feb. 1980

Great-Horned Owl: White-Throated Hooter—A formidable and useful creature, but its numbers in Montana are decreasing. Jan./Feb. 1980

A Wonderful Bird is the Pelican—This huge bird is found along most large waterways in Montana. March/April 1980

A Marmot by Any Other Name . . .—Sometimes people call them woodchucks, or rockchucks, or ground hogs. Nov./Dec. 1980

PARKS

Nominate Your Favorite Park—The coal tax trust fund plays a key role in the development of Montana's state parks. May/June 1980

Nature's Bridge—The Natural Bridge State Monument is one of Montana's most spectacular and scenic areas. May/June 1980

PHOTO/ART FEATURES

Guidepost to Summer—A photographic essay on Montana's wildflowers. May/June 1980

Enjoy!—A splendid collection of photographs by Harry Engels. Sept./Oct. 1980

A Montana Waterfowl Portfolio—Beginning with a wrap-around cover by Robert Kercher and followed by waterfowl paintings by Bob Elgas, John Michael Marion, Jim Wantulok and Ron Jenkins. Nov./Dec. 1980

Wildlife Shorts

In this time of fuel shortages, it is interesting to note that Eskimos in the Arctic use whale and seal blubber as fuel oil.

* * * * *

Tent caterpillars construct a silken tent, usually in the fork of a branch, and use it as a shelter.

* * * * *

Worldwide, there are over 86,000 fly species, of which about 16,130 inhabit North America.—*Vince Yannone, youth educator, Conservation Education Division*

in a series from the National Shooting Sports Foundation

Don't Rely on Your Gun's Safety

treat every gun as if it is loaded and ready to fire

A safety should never be relied upon as foolproof. As with any other mechanical device, it cannot guarantee safety. No safety was ever intended to serve as a substitute for common sense or safe gun handling. Never pull the trigger on a firearm when the safety is in the "safe" position or anywhere between "safe" and "fire." It is possible that the gun could discharge then or later when the safety is released without the trigger being touched again. Don't play with a safety, and always place it completely in the "fire" or "safe" positions—never in-between. And never forget these simple rules:

- At all times, have your muzzle pointing in a "safe" direction.
- Never load until you're in the field and ready to fire.
- Unload your gun upon leaving the field and before entering a vehicle or building.
- When not in the field and ready to shoot, carry your empty gun with the action open. Keep it that way.
- Be sure you've unloaded when crossing a ditch or fence. Never climb a tree with a loaded gun.

Your gun can't think, but you can. Let's all keep a safe sport safe.

THE SAGEBRUSH REBELLION: Who Owns the West?

by Mike Aderhold

THE Sagebrush Rebellion is basically an effort to dispose of a portion of the public lands now held by the federal government. This is not a novel idea; similar attempts to transfer the remaining public domain to state or private ownership have been made periodically since the mid-1800s. In the the 1940s, author and conservationist Bernard DeVoto received a Pulitzer Prize for, among other things, his journalistic efforts opposing such a move.

Proponents of today's rebellion believe that federal agencies—primarily the Bureau of Land Management (BLM) and the Forest Service (FS)—are mismanaging the land, over-regulating its users and ignoring local needs and desires. The rebels are attempting to parlay this discontent into disposal of the public domain.

But just what is at stake? It must be remembered that these lands represent a vast storehouse of publicly owned resources: fossil fuels, nonenergy minerals, rangeland, forests, wilderness, wildlife habitat and many other valuable commodities. They also provide millions of hunters, fishermen, campers, picnickers, backpackers, snowmobilers, recreational vehicle users and numerous others with a place to recreate without encountering "no trespassing" signs.

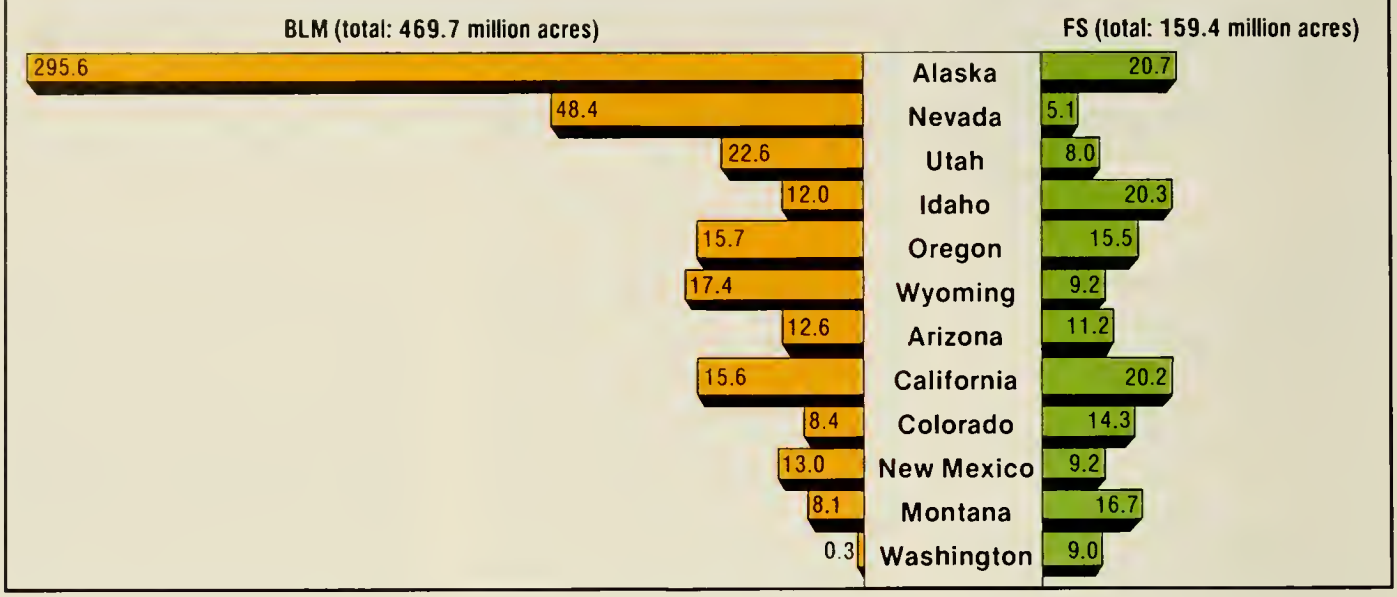
While federal management of public lands may not be perfect, would state or private management be any better? Would the disposal of public lands be beneficial to our natural resources, and to the people who use them? Before we attempt to answer these questions, let's take a closer look at the lands involved, at the laws pertaining to their management and at the Sagebrush Rebellion itself.

Including Alaska and Hawaii, the gross area of the United States is 2.3 billion acres. At various times in our history, the federal government has held title to about four-fifths of the nation's gross area. Over the years, title to approximately 1.1 billion acres has been transferred to individuals and nonfederal governmental organizations under federal legal authority generally referred to as the "land laws." For example, more than 278 million acres was removed from federal ownership by authority of the Homestead Laws. Another 328 million acres was granted to states to help support public schools, develop transportation systems and for general economic development.

Today, 65 federal agencies admini-

C. M. Russell's "Like A Flash They Turned"
(Mackay Collection; courtesy Montana Historical Society)

Federally Owned Land by Agency and State



ster roughly 762 million acres, or about one-third of our nation's land. The great majority of this public land—93.5%—is situated west of the hundredth meridian in 12 "public land" states: Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming. The BLM has jurisdiction for more than 470.1 million acres; approximately 469.7 million acres lies in the 12 public land states. The FS manages more than 187.5 million acres, 159.4 million acres of which lies in the 12 public land states (see sidebar).

PUBLIC LAND LAW REVIEW COMMISSION

In 1964, Congress ordered the fourth public land study since 1879. The resulting bipartisan Public Land Law Review Commission had 19 members, 13 of which were from the public land states. After nearly six years and the expenditure of over $7 million, the Public Land Law Review Commission on June 20, 1970 delivered a 342-page report to the President. The report covered just about every conceivable public land issue.

The 1964 commission concluded that today most public lands would not best serve the public interest in private ownership. Commission members suggested that with the modern pressures of population, growth and expanding demand for land and natural resources, the American people, acting through the political process, should determine the purpose to which their public lands should be dedicated. They found that, over the years, disposal policies, although never repealed by statute, had been rendered ineffective. Their first recommendation was that the policy of large-scale disposal of public lands be revised and that public lands remain in federal ownership so that the values involved could be used and enjoyed by all Americans. The commission held that future disposal should be limited to only those land transfers that would achieve maximum benefit for the general public.

LEGISLATIVE COMPROMISES

The BLM was created in 1946 by combining the Grazing Service, which was set up in 1934 to administer the Taylor Grazing Act, and the General Land Office, founded in 1812 to coordinate disposal of the public domain. The new agency received a legacy of more than 2,500 special land laws, some of which were contradictory, inconsistent, incomplete or inadequate.

With the recommendations of the Public Land Law Review Commission as a starting point, Congress, in fall 1970, began work in public land subcommittees on a charter, an Organic Act, stating the mission and detailing the guidelines for the BLM.

The result, requiring six years of careful and prolonged legislative debate, was the Federal Land Policy and Management Act of 1976 (FLPMA). It was one of the nation's most amended and compromised pieces of land legislation. Every public land user group fought for special considerations. Thousands of hours and thousands of dollars were spent lobbying and checking the opposition. In the end, no one group was completely satisfied, but neither did any one group dominate public lands use.

For westerners, the FLPMA is the most significant land management law passed this century. It is a break with tradition. The statute effectively repealed the more than 2,500 land laws, many of which were written for the benefit of single-interest groups. It abolished the established advisory boards. For the first time in U.S. history, it was stated in law that the public lands *would be retained* in federal ownership. In the long debate, multiple-use won out over dominant-use management.

After a regulatory statute such as FLPMA is passed, the agency responsible for administering it must then establish the detailed regulations needed to carry it out. Secretary of the Interior Cecil Andrus said in 1977

that this process would take the BLM 10 years. So, the debate over public lands which began in 1964 continues, and a period of further controversy is guaranteed.

LEGAL LIMITATIONS

In the last few years, the administrative discretion of federal management agencies has been narrowed as a result of several statutes. Probably the most significant of these is the National Environmental Policy Act of 1969 (NEPA), which requires federal agencies to prepare detailed analyses of the implications and consequences of any proposed action likely to have a "significant impact" on the environment.

To date, over 10,000 environmental impact statements (EISs) have been written. Critics of the act claim it causes needless and expensive delays, gums up the decision process with paper work and generates reams of irrelevant material that contain inadequate analyses. Proponents of the act claim it saves thousands of acres and valuable resources from unwise disturbance.

During 1974, the BLM released a controversial report on the public grazing lands in Nevada. It stated that over 80% of Nevada's 44 million acres of public grazing lands was in fair to poor condition. It said that riparian (streamside) habitat subject to livestock grazing had been grazed out of existence or was in severely deteriorated condition. It went on to say that in 1972, the rated grazing capacity was exceeded by 116,326 animal unit months (an AUM is the amount of forage required to support one cow, or five sheep, for one month) and this didn't include trespass violations. This report drew a lot of attention to western grazing practices.

Later in 1974, to satisfy NEPA provisions, the BLM prepared a 275-page draft EIS for its entire livestock grazing program.

The Natural Resources Defense Council (NRDC), a nonprofit action group, challenged the sufficiency of the BLM's statement as a basis for "on-the-ground" grazing action. In NRDC vs. Morton (Rogers C. B. Morton, then Secretary of the Interior), the District Court for the District of Columbia found the BLM's statement insufficient and ordered BLM to prepare individual statements for each of its 212 planning units. It has been estimated that it will take a total of 107,000 man-months of labor and at least $254 million to meet this request.

To date, over 22 of these statements have been prepared; in every case, overgrazing has been documented and grazing cuts recommended. But reductions were not general. They involved 48% of the grazing allotments; in 15% of the allotments, grazing increases were recommended. Thus, the NRDC's contentions were supported.

THE REBELLION

The phrase "Sagebrush Rebellion" and the impetus for the current movement came out of Nevada. On July 13, 1979, after six years of legal study and a failed attempt in 1977, the Nevada Legislature, by a 56-4 vote, passed Assembly Bill 413 declaring state jurisdiction over more than 48.3 million acres of BLM land. The bill was championed by the Nevada Taxpayer's Association, Nevada Cattlemen's Association, Nevada Farm Bureau, Nevada League of Cities and Counties and a number of other public land user groups.

The Nevada bill cites two specific legal arguments. The first is that the requirement that states entering the Union after 1816 relinquish claim to federal lands within their borders is unconstitutional, since it prevented admission of new states on an "equal footing" with the original 13 states as cited in "The Ordinance of 1787" passed by the Continental Congress.

The counterargument is that the Supreme Court has also held that the "equal footing" clause refers to political rights and sovereignty. There has never been equality among the states in the economic or property sense. Nevada might be 86.56% owned by the federal government, but its more than 9 million acres of nonfederal land is greater than the total nonfederal land in nine other states and a little less than the combined total acreage of Rhode Island, Delaware, Connecticut and New Jersey.

The second legal argument is that the U.S. Constitution specifies (Article 1, Section 8, Subsection 17) the lands the federal government may own with the assumption all other lands are to be held "in trust" for eventual disposition to the states and citizens. The counterpoint to this is that the Supreme Court has consistently ruled that Congress' power over the care and distribution of the public lands is "without limitations." In other words, even if the Continental Congress had intended for the public domain eventually to be disposed of, Congress has the authority to do otherwise, on the basis of the nation's best interest.

Right now, it appears that Nevada's legal theory and other cases that hang on it would cut both ways. If the federal government's handling of public land has, in fact, been unconstitutional since 1816, then it brings into question the legitimacy of private lands and minerals, since the federal government would have had no power to convey those items, the Homestead and Mining laws being likewise unconstitutional. The disposition of patent mining claims, mineral and grazing leases, national parks, wildlife refuges, wildernesses, national monuments and many defense installations would also be in question.

In addition to Nevada's legal effort, a legislative and political movement was started. Sen. Orrin Hatch (R-Utah) introduced S1680, a bill providing for the conveyance of unreserved and unappropriated federal lands (BLM and FS) to the states. A similar bill (HB7837) was introduced in the House by Congressman Jim Santini (D-Nevada).

By the winter of 1979-80, Oregon, Wyoming, New Mexico, California and Arizona announced plans for sagebrush legislation similar to Nevada's. By May 1980, the state of Utah claimed 22 million acres of BLM land. Arizona claimed 12 million, Idaho 12 million and Washington 300,000 acres. Some public land states considered putting sagebrush initiatives on the November ballot.

Republican presidential nominee Ronald Reagan personally endorsed the issue, and former presidential candidate John Connally included the issue in his campaign platform. Last winter and spring, the Sagebrush Rebellion rode a wave of popular support in the West. It was given cover treatment in *Newsweek*

continued on page 36

A Marmot By Any Other Name...

by Vince Yannone

illustrated by Takehiro Taira

MARMOTS are sometimes called rockchucks. Or woodchucks. Or ground hogs. But if you're referring to marmots in Montana, you're talking about two species—the yellowbelly marmot and the hoary marmot. Part of the squirrel family, marmots fall under the rodent order of mammals.

The yellowbelly marmot, *Marmota flaviventris*, is common and inhabits rocky areas and mountains over most of the western part of the state. Its total length varies from 18 to 27½ inches—including a tail from 4 to 4½ inches long. Yellowbellies are heavy-bodied, weighing from five to 10 pounds. They are characterized by yellowish-brown coloration, a yellow belly and they usually have white between the eyes and conspicuous buffy patches along the sides of the neck. Their feet are light buff to dark brown, but never black.

The hoary marmot—also called the whistling marmot—is found above timber line in Glacier National Park and neighboring high mountain ranges. *Marmota caligata* is rarely seen except by those who hike or camp in the mountains. Its body measures 18-21 inches long, shorter than the yellowbelly marmot, but its tail—from seven to 10 inches—is longer. The hoary marmot has a black and white head and shoulders, while its body is greyish washed with yellow. Its belly is a soiled whitish color and it has black feet.

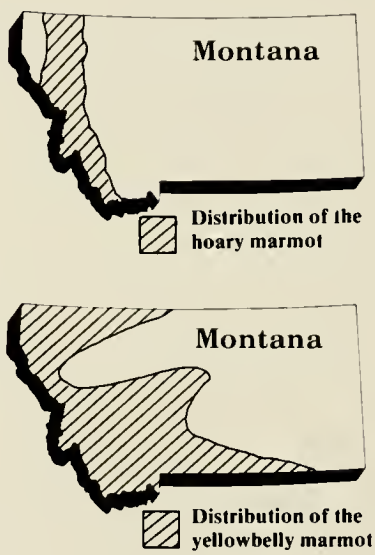
Marmots are vegetarians and eat a wide range of plants—dandelions, grasses and many types of forbs (small green plants, excluding grasses). They are active during the warm months of the year and consume large amounts of food, some of which is converted into energy to fuel the normal body processes. The remainder is converted into fat to be used to fuel the body processes during hibernation.

When fall approaches, marmots are one of the first rodents to hibernate. In Montana, this happens as early as September. Hibernation is defined as "spending the winter in a dormant state." Although the marmot is indeed "in a dormant state," certain bodily functions continue to operate, but at reduced levels. The normal body temperature of an active marmot is about 100°F; but when it hibernates, the temperature drops to one or two degrees above the surrounding air temperature. A true hibernator—which the marmot is—must burrow below the frost line (an imaginary line above which all the soil will be frozen solid and below which the soil will remain unfrozen). The depth of the frost line varies in different parts of the country and during different years depending on the above ground temperature and the moisture content of the soil. Below the frost line, the temperature will remain at about 40°F, which means the hibernating marmot's temperature will drop to about 41-42°F. Its respiration rate and heartbeat will also drop significantly—but both processes must continue to ensure life. It is at this time that the reserve body fats built up earlier are metabolized for energy.

When the marmot wakes up in early spring, its fat reserves have been exhausted. Wouldn't it be something if humans could go to sleep for six or seven months and wake up slim and trim?

The marmot's wide popularity is partly because of the rhymes and riddles made up about it. One of the most popular is a tongue twister which goes: "How much wood would a woodchuck chuck, if a woodchuck could chuck wood?" The marmot also is the only animal with a day named after him—Ground Hog Day. If the ground hog can see his shadow on Feb. 2, he will go back into his burrow and six more weeks of winter will follow. If he fails to see his shadow, spring is on its way. But anyone who has spent a winter in Montana knows at least six more weeks of cold will follow Feb. 2. The ground hog would be lucky to even be able to dig out of the frozen ground on that date, to say nothing of seeing his shadow.

The next time you are enjoying the backcountry or hiking through rocky terrain, keep your eyes open for the marmot, one of Montana's interesting nongame animals. ■



Yellowbelly marmot painting by Takehiro Taira; courtesy Dr. M. J. Winship

A Montana Waterfowl Portfolio

text by Dave Books

Perhaps part of the attraction of the waterfowl is the compelling nature of their habitat. Marshlands are mysterious places—a little foreboding at times, but fascinating nonetheless. The diverse plant and animal life, the rank vegetation, the endless mud and the rotting organic material all combine to form a rich-smelling, primordial broth.

Even after years of negotiating marshes—in canoes, duck boats, hip boots and chest waders—I still approach them with a twinge of apprehension. When walking, I test the footing carefully, keeping one weather eye on the tops of my hip boots and the other cocked toward higher ground. I never feel totally the master of a duck marsh, as I might a familiar woods, a stretch of trout stream or a piece of pheasant cover.

One man who understands the marshland is Bob Elgas, whose painting of snow geese graces these pages. Rancher, artist, aviculturist and self-taught naturalist, he is an acknowledged expert on the world's wild geese. He studies them, raises them and hunts them; so, when he paints them, you can be sure they are authentic down to the finest detail.

John Michael Marion

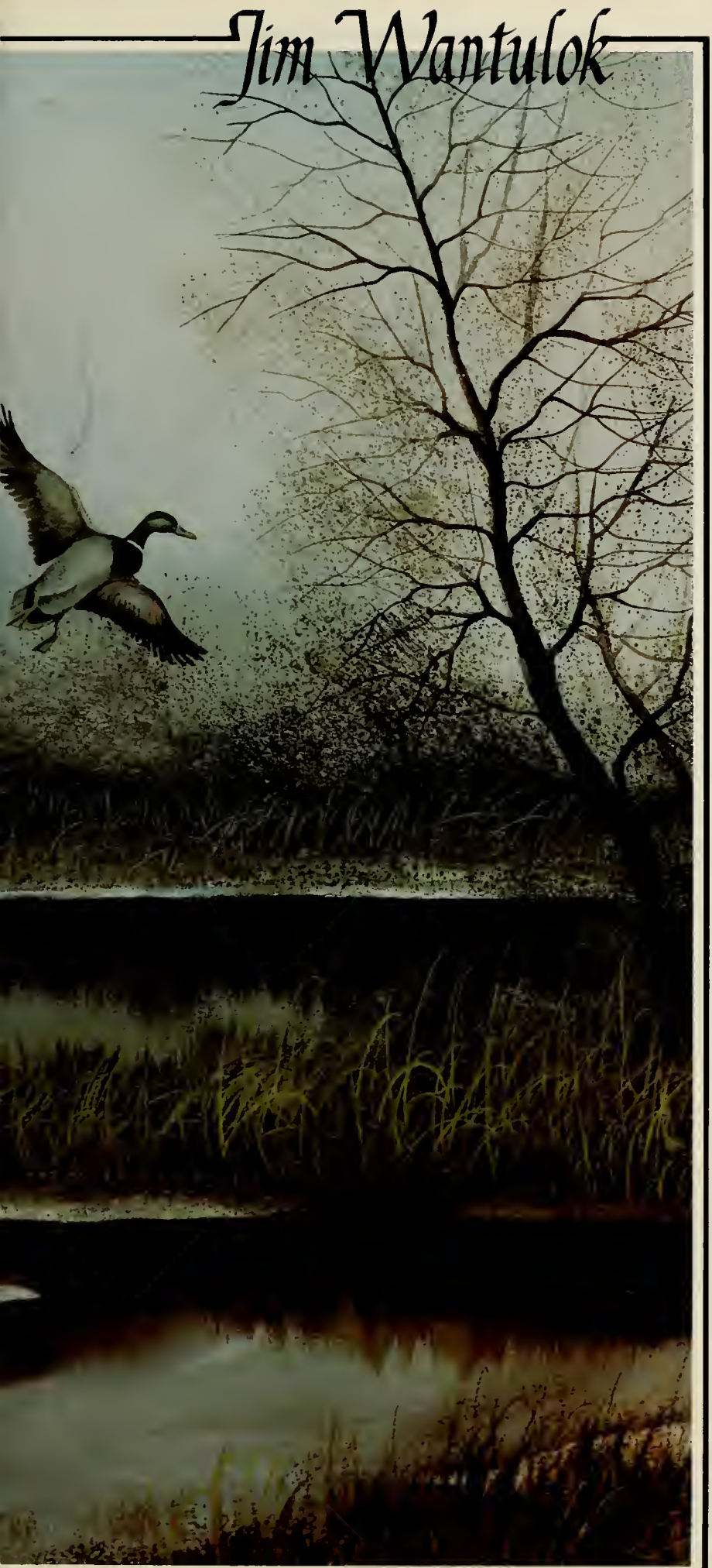
When I think of the green-winged teal, portrayed so skillfully here by Hamilton artist John Michael Marion, my mind turns back to a cold, windy autumn day along the shore of Flathead Lake. I was sitting in the sand, back against a driftwood log, mesmerized by the steady drum of white-tipped waves on the beach. A few shorebirds darted in and out of the surf, while a hawk circled lazily overhead. Suddenly, seemingly out of nowhere, a flock of green-winged teal whipped by in a roar of wings, driving low and hard with the wind, so close I could nearly reach out and touch them. They appeared and disappeared so fast I had to blink my eyes and ask myself if I had really seen them. I wouldn't be sure to this day, except for a picture, indelibly engraved on my memory, of chestnut-headed little ducks with vivid green eye masks hurtling down the beach.

Anyone who has ever tried to get a shotgun muzzle in front of one of these feathered rockets will appreciate a story related by the late Ray P. Holland, editor of Field & Stream *in the 1930s.*

It seems two boys were shooting ducks for the first time, when a flock of teal swept over the decoys with all the roar and swishing of air that such an occurrence can create. The birds were in and gone before either boy realized what had happened. Then one boy dropped to the ground and hissed to the other, "Git down!"

"What do you want to get down now for?" asked his partner.

"Heck," said the first boy, "the world's round, ain't it? They'll pass us again in a minute."



Mallard. The very word stirs the blood of duck hunters from Alaska to the Atlantic Seaboard, and for good reason: The mallard is a big, colorful duck; it is also abundant, extremely wary and a fine table bird. If someone were given the assignment of designing the perfect duck for American waterfowlers, that person could hardly improve upon the mallard.

Bozeman-based artist Jim Wantulok's mallard paintings never fail to evoke a certain feeling of having been there before. They set in motion a stream of pleasant memories that every duck hunter carries in his mind.

I remember the mallards that came slipping quietly through the fog on a December morning, emerging like apparitions from the mist. I remember the flocks that came to the decoys one stormy Thanksgiving Day, bucking hard against the wind, a maelstrom of swooshing wings backpedaling down to the decoys. I remember the mallards I thought I had lost, only to have a bedraggled Labrador appear, bird in mouth, having once again performed the olfactory miracle of finding one small duck in a half-acre of water, mud and cattails. And I remember the mallards that flew high, ignoring calls and decoys, on bluebird days—days consequently devoted to sipping coffee and observing the activities of marsh hawks, muskrats and red-winged blackbirds.

Not for nothing have I spent endless hours in the duck marsh. I have learned many things about the enigmatic duck—about the calls that attract him, the decoys that deceive him and the dogs that retrieve him.

And I also have learned some important things about how to place him in a position of honor at the dining table. I have distilled these gustatory experiences into one universal law:

BOOKS' LAW OF EATING DUCKS

Some kinds of ducks are better to eat than other kinds. Even the kinds of ducks that are especially good to eat are not always especially good to eat. But when a kind of duck that is especially good to eat is especially good to eat, there is nothing better to eat in the entire world.

Take the canvasback, portrayed here by Missoula artist Ron Jenkins against a Mission Mountains backdrop. I remember a certain drake canvasback—cooked, complete with bread and herb stuffing, wild rice, pumpkin pie and steaming mugs of coffee—that I believe was the best meal I've ever eaten. No wonder Chesapeake Bay canvasbacks sold for $7 a pair in 1890. If there's such a thing as a duck hunter's heaven, I hope canvasback is on the menu every night.

Ron Jenkins, incidentally, is no stranger to the canvasback, as his excellent painting will attest. He won the coveted Federal Duck Stamp Design Contest in 1965 with a rendering of this extraordinary bird. ■

A Precious Christmas Past

by Ken Walcheck
illustrated by Elliott Eaton

That year when I was 12 was a coming together of all the ideas and emotions I had ever held about Christmas. It had been building since the afternoon of Christmas Eve when Dad and I went into town to do some last-minute shopping. When we returned to the farm, it was dark and the beam from the pickup's headlights fell in a soft yellow glow over the freshly fallen snow. As I walked toward the house, the snow crunched under my feet, the frigid air tingled the tips of my ears and nose and the wonder and mystery of the season surged through me.

I almost floated up the stairs to bed. The faraway, frosty stars drifted slowly by my window, marking nighttime's endless hours.

I was wide awake when Christmas Day dawned. I slipped on my flannel shirt, jeans and boots and raced down the stairs. The yuletide tree filled the living room with the vitality of its wildness and the decorations hanging from the beamed ceiling added a festive touch. But everything else in the room paled when I saw a present that could be intended only for me.

It was a 20-gauge, double-barreled shotgun, complete with a leather case that had my name tooled into it. From his vantage point in the kitchen, Dad was witness to my joy. A big smile broke across his deeply weathered face and he reached for his pipe, making quite a fuss about tamping the tobacco into the bowl and lighting it with a kitchen match.

"Son," he said, "this little old 20-gauge isn't any stranger to you. It's not a fancy gun, but it's a good grouse gun. And if you hold her like I taught you, she'll do a good job for you."

To me, it was the most beautiful gun in the world. True, it was not new, and it had its share of blemishes, but like Dad said, it was all I needed for now. Besides, it had been Dad's gun for a good number of years.

The real worth of the gun wasn't the gun itself, but the storehouse of knowledge that Dad shared with me as he taught me to hunt. His instruction served me well, and later would prove an enduring gift to my own sons.

* * * * *

My introduction to the 20-gauge had come a year earlier. It was late September and Dad and I were pulling a crosscut saw through the innards of an ancient cottonwood. "Whoa," he said, "let's take a breather." As we rested on the ground, he mentioned a flock of sharptails he had spotted in a nearby coulee. We figured late afternoon might be a good chance to try for them.

As we walked down into the large draw choked with buffaloberry, Dad loaded and passed the 20-gauge to me and motioned for me to take our yellow Labrador, Sandy, and walk ahead of him.

"When the birds flush," he instructed, "pick one grouse and don't try to knock down the whole flock. Nobody can kill all the birds with one shot. You have to shoot them one at a time."

When we had walked about a quarter of a mile down the coulee, Sandy's tail began pumping with excitement and her pace quickened. Time seemed to stand still as Sandy diligently worked the cover. Even though I was a greenhorn, I knew there were grouse ahead.

I pushed the safety foward and it made a low, but audible, click. The next thing I knew, Dad rapped me hard on the shoulder and said, "Okay! Let's have the gun."

About that time, a dozen or more sharptails exploded from a scoria-colored stand of little bluestem grasses, cackled with their typical "kuk-kuk-kuks" and sailed down the draw and out of sight.

I was mystified and confused, and I couldn't understand why Dad had hollered at me and taken the gun away. When we got back to the corral, he broke the gun open, slipped the shells out and handed it back to me. Then he spoke: "What you must never forget is that when you have a gun in your hands—any kind of gun—you have an instrument that can be a potential killer. It's something a good hunter never forgets. There's no reason at all why you have to push the safety off until your target is visible and you're ready to shoot. Don't ever forget what I just told you.

"See that old barrel over there? I want you to walk up to it and when I tell you, take a bead on it, slip the safety off and dry-fire both barrels of your shotgun at the center of it. Got that?"

I did as instructed and when he said "Now!" I pulled down on the barrel and snapped the first trigger. "Click." When I pulled down tight on the second, the gun roared and its barrel jumped up and slammed me across the bridge of the nose.

"Lesson number one," instructed Dad, "is to always assume a gun is loaded until you check it out. You never saw me slip a shell back into the gun and you never bothered to check. Take a look at the size of the hole in that barrel. That could have been me or Sandy you blasted. Your feelings might be hurt, but I figure you have learned a lesson you'll never forget." He was right, and I never did forget.

* * * * *

Dad was a good hunter and very early in the game he taught me the fundamentals of hunting and conservation. The lessons have stayed with me through life. He believed that boys shouldn't have things made too easy for them. After making certain that my respect for guns was real, he more or less left me alone. I guess that's why I got that 20-gauge that Christmas—he figured I was big enough to carry the responsibility.

Every time we went hunting or fishing, he passed along some good advice, not only about gunning or angling, but about life in general. There was that humid July day when we had finished haying. We decided to drift down to the Yellowstone to do some catfishing and take life easy for awhile.

"It's kind of strange," he told me

after we had finished throwing out our set lines, "but some folks can be dealt a good hand by the Almighty, and yet they go through life with their eyes closed, never playing a card or seeing life for what it is. And then before they know it, they get the nod that their time's up and they missed the better things in life—things that wouldn't have cost them a penny to see had they opened their eyes. What do you think about what you see in front of you right now?"

I wanted to tell him that I saw a majestic, free-flowing river sliding by. And that I heard the rustle of shiny green-yellow cottonwood leaves and felt a delicate breeze sifting through the trees. I wanted to tell him that I sensed the haunting and serene quiet, where one could feel at home with ancient and mysterious rhythms. And that I had seen nighthawks with closed wings swooping down in steep dives and the distant buttes with ancient faded pastels, shimmering in a way that gradually intensified the dull brick red and ochre shades. And that I had felt small in the vastness of such rich surroundings. And the ever, ever Big Sky. I wanted to tell him all of this and more. But I couldn't because then I didn't have the words.

"You're not saying much," said Dad, breaking the long silence. "What do you feel like?"

Poking a stick in the ground and looking at the Yellowstone, I said, "Well, I feel like I'm pretty rich, yet it's more like that word you said that I can't remember."

"Humble?" he said.

"Yes, that's the word," I answered softly. "I feel like I'm a real small part of the whole picture and I can't express myself any better."

"You don't have to," Dad said gently. "You've just taken a pretty big step up life's ladder. The understanding you already have will take you a long way in this world."

* * * * *

Hunts differ in flavor, sometimes for subtle reasons. Surely some of the sweetest are those where hardship and good companionship are mingled. For a boy, these are the best adventures.

It was late November and the lower Yellowstone was locked in cold-forged stillness. Dad decided this would be a good time to try for mallards. Laden with burlap sacks filled with hand-carved decoys and hunting gear, we stumbled through the morning darkness to a driftwood blind Dad had built on a gravel bar. As we threw out the decoys, the wind whistled through the naked trees, silhouetted against an iron-colored, snow-laden sky. The clouds tumbled low and menacing, carrying warning of more snow to come. Despite the bitter cold, the feel of the 20-gauge resting in my lap seemed to make the whole thing worthwhile.

It's difficult to explain how a boy feels when a flock of greenheads skitters into a block of decoys and his father is trying to give sound advice. Your heart is pounding so hard you're sure it's going to scare the ducks away and you are completely oblivious to the bitter cold and your numb fingers. Suddenly, you spring upright, shoulder your gun and lead, all in one motion. You don't remember snapping the trigger. You hear the thump of the gun, and see the mallards falling.

I noticed that Dad was passing up a lot of good shots and I later asked him why. Pouring us some hot coffee from a well-seasoned thermos, he told me that a man doesn't really start appreciating life until he's past 40. "About that time," he explained, "you begin to get a different kind of satisfaction from things you experience on a hunt such as this one. I can go to bed tonight and get just as much enjoyment dreaming about you shooting the ducks over the decoys. True hunting boils down to that word precisely—hunting. Not killing. True hunting is a personal bond with nature, one born of respect for the natural world and its creatures."

MONTANA OUTDOORS AT CHRISTMAS

A "Cents"-ible Stocking Stuffer

Hiking back to the farm was an ordeal. My wool socks were matted and sodden and the pain had begun. I walked like a machine, one foot ahead of the other. The breaking crust of the frozen snow caught the toes of my boots and only emphasized the keen stab of weariness between my shoulders.

When we finally reached the house and stood in front of the stove, the real pain started. My ears were fire-engine red and my feet hurt so much it brought tears to my eyes.

"Look at the two of us," Dad said. "We're a couple of miserable looking critters all froze up and your mother thinks we're crazier than all get out. If that's so, how come we had such a good time?"

Rubbing his chilled hands together, he said, "When you get a little older, watch the feller that'll face up and shoulder the hard job while the others sit around complaining the job can't be done. Many folks give up when the going gets rough, but it's at this point when the finer things in life start coming through. I guess it boils down to the fact that you can't really understand happiness unless you've hurt a little bit. That's what we experienced on this hunt. It's that little extra effort that makes the whole thing work. It seems to cut through some of that dullness and laziness that covers our bodies and dampens our spirits. Whether you run it off, sweat it off or shiver it off like we did today, you end up with a little more zest and you develop a finer appreciation for some of those 'lesser' things in life that are within a stone's throw. When my number comes up and when I pass on to that distant land, I'm going to be a little disappointed if the same rules don't hold."

As we stood in front of the fire soaking up the heat, I looked over at the 20-gauge sitting in the gun rack and I thought of the many trips that gun had taken with my Dad. Although I didn't know it on that cold November day, the 20-gauge would be one of the finest Christmas gifts I would ever receive. It had already opened the door to some experiences and values that, to this day, are beyond the reach of words. ■

Readers Respond

Rocky Mountain Front: A Last Stronghold

I would like to give a vote of confidence to Gary Olson's article, "Resources in Conflict," in the July/August 1980 issue of *Montana Outdoors*. In particular, I would like to emphasize the vulnerability of certain species of wildlife that are intolerant of human disturbance.

In the Rocky Mountain Front, we have one of the last strongholds of some of the sensitive species of wildlife that have been eliminated from most of their original habitat in the contiguous United States. Species such as grizzly bear, mountain goat, mountain sheep, elk, mountain lion, prairie falcon and golden eagle are still present in reproducing populations in the Rocky Mountain Front, However. these particular species are extremely vulnerable to disturbance and, invariably (except in national parks), move out of areas where even low-level disturbance occurs. When key areas like these are destroyed, all that remain are remnant, nonreproducing individuals. Then it is a matter of time until these are also eliminated. These are the key reproductive areas which supply animals to areas of less suitable habitat.

In addition, poaching invariably accompanies exploration and development, regardless of claims to the contrary. For slow-reproducing species such as those mentioned here, the removal of four or five animals from a drainage can be critical. It is my understanding that the present policy is to let leases and write impact specifications later. This is utterly futile. Once leases are made, gas and oil companies will make out their own specifications.

This is an extremely sensitive area for these rare species of wildlife. To eliminate key reproductive areas for these species of wildlife that are important in our American heritage for scientific study, for aesthetic and recreational enjoyment, as indicators of environmental quality, as members of undisturbed ecosystems, and just because they exist, is to degrade the quality of the human environment. I strongly recommend thorough and accurate environmental impact statements be made.—*Catherine H. Ream; Missoula, Mont.*

"Wood as a Fuel"

The article by Jud Moore, "Tips for Wood Gatherers" (Sept./Oct. 1980 *Montana Outdoors*), was well done. He covered the most important, basic aspects of the subject. I especially thought his general rating category for commonly collected firewood species was excellent, as everyone does not have to burn western larch exclusively.

I often receive inquiries about the best species to burn. My response is always the species that is the easiest and/or cheapest to find, cut and haul. Contrary to popular opinion, firewood gathered from the national forests is not "free," but costs upwards to $30 per cord in out-of-pocket expenses for transportation and saw maintenance and depreciation. The only effective way to reduce the cost per cord is to use a larger truck or to drive fewer miles, i.e., possibly cutting accessible lodgepole pine over western larch.

For additional information, readers might be interested in the 17 short papers written by personnel of the Cooperative Extension Service at the University of Idaho and known as the "Wood as a Fuel" series. They are sold individually or in a packet. The packet costs $2.50, plus postage. Order from the Department of Agricultural Information, College of Agriculture, University of Idaho; Moscow ID 83843. Individual titles and prices are listed below:

- CIS 471 "Fuelwood Costs" (1979) 5 cents
- CIS 472 "Firewood Selection" (1979) 5 cents
- CIS 473 "Firewood Gathering Permits" (1979) 10 cents
- CIS 474 "Wood Storage" (1979) 5 cents
- CIS 479 "Chimneys" (1980) 10 cents
- CIS 480 "The Creosote Problem —Chimney Fires and Chimney Cleaning" (1980) 10 cents
- CIS 481 "Smoke Problems and Their Cures" (1979) 5 cents
- CIS 482 "Wood-Burning Furnaces" (1980) 5 cents
- CIS 485 "Wood Stove Installation and Safety" (1979) 10 cents
- CIS 486 "Building Your Own Wood Stove" (1980) 10 cents
- CIS 487 "Fireplace Safety" (1980) 5 cents
- CIS 493 "Fireplaces" (1979) 10 cents
- CIS 494 "Fireplace Adaptations and Efficiency Boosters" (1980) 10 cents
- CIS 495 "Building an Easy Starting Fire" (1979) 5 cents
- CIS 511 "The Beauty of Warming with Wood" (1979) 10 cents
- CIS 520 "Installation of Wood Stoves in Fireplaces" (1980) 10 cents
- MS 53 "Wood-Burning Stoves" (1980) 25 cents

—Donald Hanley, extension forester, Cooperative Extension Service, University of Idaho; Moscow, Idaho

Special Issue Welcome

In June I sent for and received your Special Hunting Issue. I just want to thank you for a job well done. It was one of the best magazines I have read.

You don't have the pressures that we have here on the East Coast from anti-gun, anti-trap and anti-hunting groups.

Your magazine with all the fine articles was welcome. I will pass it on to our gun club members.—*Wayne Hap Post, president, Somers Sportsmen's Association, Inc.; Somers, Conn.*

Tasty Twist for Antelope

I loved Bart O'Gara's article on the pronghorn (Sept./Oct. 1980); it brought back wonderful memories of many hunts in southeastern Montana outside of Colstrip. My first meal of the delicious meat was the tenderloin, wrapped in a rich savory pastry, made much like a Wellington. It seems to me that making jerky out of antelope meat is like substituting perch roe for caviar.

I hope Bart and your readers will try the following recipe:

12 small onions
3 T lard
2 pounds antelope meat, cubed
1 T flour
2 c red wine, heated
1 clove garlic, crushed
1 T orange peel, grated
½ of a small bay leaf
½ t thyme
½ t nutmeg, freshly grated
½ t salt
freshly ground pepper

Brown the onions in the lard and set them aside. Add the meat and brown in drippings. Add flour and stir. Add wine, garlic and remaining herbs. Cover tightly and cook over low heat for one hour. Add the onions; cook for an additional 12 minutes. Sprinkle with fresh parsley and serve over rice or noodles.

Enjoy!—*Maureen Theiler; Polson, Mont.* ■

RECYCLED PAPER

Rattling for Bucks

by Ken Walcheck

AS THE November sun casts its early morning rays onto a small, forested range of rolling hills in southeastern Montana, a sharp resounding "Crack!" shatters the woodland silence. A blend of grinding, clattering noises lasting about five seconds quickly follows.

A brief silence. Then loud, angry sounds of brush and trees cracking and scraping noises.

Silence again.

About 150 yards from the disturbance, a heavy-antlered white-tailed buck stands stiff-legged, ears flat against his neck, his head extended and lowered. Irritated, he paws a small scraped out area of forest turf, urinates on it and stamps his feet. Then, with stiff-legged hops, the buck wheels, viciously hooks some small saplings with his antlers and, with head down and body hairs bristling, charges at full speed toward what he visualizes as two bucks in combat.

Minuscule hints of danger in the air normally would have alerted the buck, but his responses were tempered by sex hormones that flood his body during the rut. He never saw the concealed hunter who stood from a crouched position and raised his rifle.

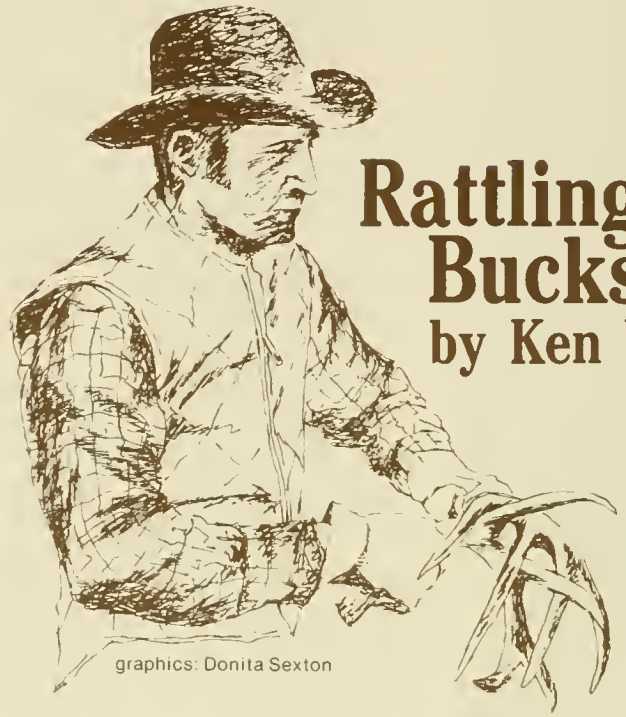
* * * * *

Anyone who has seriously hunted whitetails knows it is exceedingly difficult to sneak up on a buck without its knowing you are coming. That was the primary reason why Frank Mehling, who ranches near Ekalaka, was using the horn rattling technique to call in the buck in the hunting incident just described.

Basically, rattling for bucks is simulating the noise made by two bucks fighting. The larger the buck, the more likely he will come to the call. The horn rattler must attempt to imitate the initial clash of two bucks, the twisting of the meshed antlers and the sound of the antlers being separated, as well as other sounds that occur during a fight. To a mature, bachelor buck, the sound of two fighting deer has the unmistakable meaning that a doe in heat is available, with or without a fight.

Horn rattling can be a highly productive method for bagging a good-sized buck. Mehling has rattled up numerous white-tailed bucks over the past decade in several areas of southeastern Montana, including the Long Pines, Ekalaka Hills and other spots in the Custer National Forest. During the dry fall of 1974, Mehling's most productive rattling year, he called up 17 bucks one morning from different stands in the Long Pines. This is not to say that rattling a pair of antlers is a surefire method for calling in a buck, but if one rattles in the right area and knows his business, the method can be quite rewarding. The trick lies in knowing how, where and when to rattle.

But it's also a technique that can be highly productive for beginning callers if they understand the basic essentials of hunting deer during the rut. Take the example of Doug Dusek, Havre, who bagged a whitetail buck the first time he ever rattled a set of horns. After filling his tag, the other members of Dusek's hunting party expressed some doubt as to whether he really did bag his buck by rattling it up. They became believers, however, when he rattled up another buck for his cousin.



graphics: Donita Sexton

Dusek described how the second whitetail was called in:

"There were ponderosa pine thickets, underbrush and a good concentration of sign on a bench which paralleled the side of the main drainage. Visibility was 30-50 yards at best. We found a knoll where the area ahead was patchy pine thickets with an opening in front. Joey Dusek, my cousin, took a prone position on the knoll and I kneeled by some brush on the backside of the knoll. I figured any rattling movement and my outline would be hidden by the knoll. I started rattling and continued for about 20 seconds. The sound carried because of a rock ledge above which formed a rim. After about a minute, I rattled again, and then began scraping the ground and brush nearby. When everything was quiet, I could hear movement in front of us, below the rim. The brush and cover were fairly dry and the sound could be heard only now and again, but there was definitely something moving toward us. I was afraid the deer would circle too high and be able to look down on the knoll and see us.

"For a long time, I couldn't detect any sound of movement and the growth ahead was so thick I couldn't see anything either. For about the fourth time, I rattled again. When I looked up to see if Joey was getting restless, I saw him swing his gun barrel slowly across to the right. The buck came into view and entered the opening. He walked to within 40 yards of us. Joey filled his tag with one shot in the lungs."

Horn rattlers, like other kinds of game callers, have varied opinions on what kind of horns work best. Mehling prefers a large set of heavy, symmetrical whitetail antlers. Most authorities agree that bleached or excessively dried horns don't work very well for rattling because of an unsatisfactory tone. Successful calling requires that antler tines must properly mesh when brought together and that they produce a quality tone. Some horn rattlers soak a favorite set of horns in linseed oil to protect it from weathering.

When I asked Mehling to demonstrate how to rattle a set of horns, I was not quite prepared for what I saw and heard. When he forcefully smashed the antlers together, I could clearly picture two bucks with swollen necks lunging at each other, the loud clash of horns, and the sound of the meshed antlers being separated as they twisted to free their interlocked tines.

Mehling explained the brow tines were sawed off and the sharp butt ends of each antler base were rounded to prevent injury to the hands when the antlers were brought together. I was also surprised to

see that when the antlers were brought together, one antler was reversed so that all tines pointed in the same direction. Mehling believes the safest rattling horns are a pair of two right or two left horns properly matched according to size, weight and symmetry. He recommends using a pair of leather gloves to lessen the possibility of hand injury. Use clean gloves free of gas and oil odors or any other unnatural smells that might ruin the hunt.

Although Mehling's rattling technique varies depending on the locality, time of year and weather, a typical rattling sequence goes like this:

(1) Clash horns together, keeping hands well apart. Mehling prefers to start with a medium-intensity clash, increasing the volume with later clashes.

(2) As soon as initial contact is made, twist the antlers in opposite directions for about five seconds using opposing wrist action with a lot of twisting. Imagine a pair of bucks with interlocked antlers rotating, raising, lowering and twisting their heads from side to side—this is what you have to simulate.

(3) Force the antlers free from each other while keeping constant pressure on the tines.

(4) Following the initial first loud clash and rattle sequence, try to imitate the sound of the bucks as they pound the ground with their hoofs and as they crash through the brush. Bang the bases of the antlers on the ground, knock them against brush and scrape the tines on the side of a tree. This sequence should last from five to eight seconds.

(5) Wait for about five minutes and repeat the entire routine. If no buck appears after the third or fourth try, move into a new area and select another stand.

WHERE TO RATTLE

Rattling for bucks probably originated in the thick, brushy country of south Texas. Horn rattling for whitetails—and to a lesser extent, mule deer—has spread to many parts of the country, including Montana. Apparently, mule deer do not react to a simulated deer fight as readily as whitetails because of behavioral differences and habitats utilized. But after talking to Mehling, I was convinced that rattling will work in most areas where there are deer, whether mule or whitetailed deer.

Now comes the question: Where in your hunting area should you rattle? Some understanding of deer biology will help answer it. In early fall, an increasing flow of the male hormone in the male's antlers cuts off the blood supply nourishing the velvet (the fuzzy membrane covering the antlers). The velvet is gradually removed as the buck "shadowboxes" with small trees and shrubs. These "rubs" are usually found on small trees from one to two inches in diameter, and the bark is scraped off from one to three feet above ground.

After the velvet has been removed, the buck polishes his antlers and wages mock battles with the brush. These encounters train him for future bouts with other bucks and mean that the rut is not far away.

As the weather cools and frosts become more frequent, the mature buck's neck swells as he readies himself for the breeding season. During this period, bucks become hostile to other males and will fight to keep subordinate males away from a territory in which they assert the primary right to receptive does.

As the rut nears, mature bucks start making scrapes or "marking posts" (some hunters call them "doe traps"). Scrapes are fanned-out areas from one to three feet in diameter where bucks have pawed the ground, removing grass, plants, litter and other debris. In a meticulous piece of research on the social behavior of whitetailed deer in relation to habitat, wildlife biologist David H. Hirth found that the buck usually breaks off a small branch while making the scrape. Bucks also rub their foreheads on woody vegetation while making scrapes, which suggests the forehead functions in scent marking.

In his examination of scraped areas, Hirth often found fresh or dried urine that was dark red, not yellowish like that of a typical elimination. The reddish urine was a product of what biologists call "rub-urination." A buck's normal posture for urination during the rut is a slight squat, with hind legs together, as he rubs his tarsal glands up and down and urinates on them. (The tarsals are scent glands on the inside of the hind legs. They secrete an oily substance with a musky odor.) Rub-urination apparently serves as a scent signal which combines urine and tarsal secretions. A scrape has two purposes: It informs a receptive doe that she is in the territory of a mature buck, and the deliberate scent signal marks off the perimeter of the buck's territory—a "red" warning flag to other bucks in the area.

Contrary to what some hunters believe, does are not receptive to bucks at all times during the rut; their estrus or heat period last about 24 hours. Only during this time will a doe normally accept service by a buck. If a doe is not successfully bred during the first estrus, she will come into heat again in about 28 days.

To someone unfamiliar with the habits of deer, locating scrapes can be difficult. I once hunted for whitetails on a large island in the Yellowstone River that was literally pockmarked with scrapes in thick, brushy areas; yet another hunter looking in the same area told me he had seen none.

When a hunter positions himself in a well-concealed spot for horn rattling, Mehling recommends that he should not get too close to a "fresh" scrape (the moist, dark dirt and urine splashes that characterize a fresh scrape usually can be spotted at several feet) because of a deer's remarkable ability to pick up the slightest whiff of human scent.

WHEN TO RATTLE

Since bucks respond to rattling primarily because of their sex urge, the best time to rattle is during the rut. During this period, most bucks are active just before sunrise until about an hour or two after daylight and also in late afternoon just before dark. A cold snap, following a warm spell, topped off with a clear day and a slight breeze seems to be best. Dark, overcast days offer the poorest chance for success. Horn rattling can also be highly productive when the woods are dry because deer can be heard for long distances, while the hunter can be very quiet as he waits.

One of the exciting aspects of trying to rattle up a buck is that you never know how quickly or in what manner he will approach. Some bucks charge like cavalry horses, while others drift in with barely a sound. Some bucks find it difficult to leave once rattled up. On one hunt, Mehling was rattling for an archer in the Long Pines when a doe showed up. A buck hot on her tracks nosed the doe into some downed timber. The bowhunter launched five arrows—all misses—at the buck before the buck decided to move on.

DANGERS IN RATTLING

Like any other hunting technique, horn rattling has dangers. Mehling gives the following advice to potential horn rattlers:

(1) Rattle in remote areas not likely to have another hunter.

(2) If possible, hold the antlers low to the ground and behind some brush, so that if any other hunters are in the vicinity, they won't see them.

(3) If you are rattling for a hunting partner, make sure that you and your companion wear not less than 400 square inches of hunter orange material. Some horn rattlers will even spray the horns with blaze-orange paint.

As in any game calling, the tendency is to overdo it. Many a buck rattler has ruined a good opportunity by rattling too frequently. Beginning rattlers should also remember that rattling won't work every time—but it's also unfair to try once or twice and decide the technique won't work. Like other challenging pursuits, patience and a little hard work go a long way. ■

Contributors

The public lands now held by the federal government represent a vast storehouse of publicly owned resources such as fossil fuels, nonenergy minerals, forests, wildlife habitat and many other commodities. These acres also provide millions of outdoors users with a place to recreate without encountering "no trespassing" signs. Once again, **Mike Aderhold** tackles a complex, controversial subject and explores it thoroughly so the reader comes away with a better understanding of what's at stake. Perhaps the key question is: "While federal management of public lands may not be perfect, would state or private management be any better?" Aderhold's wildlife experience with four federal agencies (the Corps of Engineers, Forest Service, Fish and Wildlife Service and the Bureau of Land Management) provides him with unusual insight into the problems of "The Sagebrush Rebellion: Who Owns the West?" He recently left the information officer's position in Region 6 (Glasgow) and joined Region 1 (Kalispell) in the same capacity. Turn to his article on page 11.

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The *Montana Outdoors* series on nongame species continues with "A Marmot by Any Other Name. . . ." And **Vince Yannone** continues to delight readers with his informative, yet easy to understand, pieces. Montana has two species of marmots, the yellowbelly and the hoary; Yannone carefully explains the differences between the two and also points out that people are likely to call them rockchucks, woodchucks or even ground hogs. Yannone is the youth education specialist for the department's Conservation Education Division. He has previously been hunter safety coordinator and worked on elk and grizzly bear research for the Montana Wildlife Research Unit. When he is not bringing Montana's wildlife and instruction about its ways into the classroom, he may well be rafting, hunting, fishing, camping or doing any of the other many outdoor activities he enjoys. His article begins on page 14.

The rendition of the yellowbelly marmot by **Takehiro Taira**, a Kalispell artist, is a welcome addition to the article. His finely detailed work has appeared often in *MO*, especially to illustrate the nongame series.

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Dave Books' text for "A Montana Waterfowl Portfolio" (page 16) is a suitable accompaniment to a series of paintings guaranteed to make any waterfowler's heart beat a little faster.

The portfolio opens with our first wraparound cover, this one featuring American widgeons by **Robert Kercher** of Great Falls. He won first place in this year's juried watercolor show at the State Fair in Great Falls and in 1978 won the fair's "Best of Show" award.

The artistic abilities of **Bob Elgas** are surely enhanced by his other vocations, naturalist and aviculturist. He maintains one of the most complete collections of wild geese in the world at his ranch near Big Timber, and has also had great success with breeding captive geese. It is not surprising, then, that his favorite subjects are birds—in this case, snow geese. As a result of his research efforts, the California tule white-fronted goose, *Anser albifrons elgasi*, was named in his honor.

Hamilton artist **John Michael Marion** has skillfully captured the green-winged teal, the "feathered rocket" of Montana's waterfowl kingdom. Since his first one-man show in 1978, Marion's success has steadily grown. His snow geese painting was selected as the winning design for the 1979 Montana Bird Stamp.

Jim Wantulok says he paints waterfowl to capture "those quiet spots where every hunter has been at one time or another." His way of viewing the beauty of the outdoors will be appreciated by our readers in the mallard painting in the waterfowl portfolio. A native of Bozeman, Wantulok's work currently appears in galleries in several states and he has had one-man shows in Montana, Washington, Oregon and Texas.

Ron Jenkins' signature is often seen and greatly anticipated in our pages. We still receive comments about the Missoula artist's grouse series in the Sept./Oct. 1978 issue and his cover painting of Canada geese in Sept./Oct. 1979. His rendition of canvasbacks was selected from among 200 entries as winner of the 1965 Federal Duck Stamp Design Contest; his canvasbacks painting in this issue will enable you to understand why.

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The poignant watercolor of a boy and his first shotgun serves as an appropriate introduction to the work of **Elliott Eaton.** A professional artist, he has won many "Best of Show" awards and operates Homestead Gallery in Park City, Mont.

To the boy, it was the most beautiful gun in the world. It wasn't new and it had a few blemishes, but the marks had come from years of loving use by his father. As he soon began to understand, the real value wasn't in the gun itself, but in the knowledge passed from father to son, and the outdoor experiences shared. **Ken Walcheck** recalls it as "A Precious Christmas Past." In the type of homespun reminiscence he handles so skillfully, Walcheck manages to tie together the things about Christmas and the values of the outdoors that we all cherish. His article will open the door to some feelings that are slightly beyond the reach of words, just as the gun opened such a door for him. Walcheck continues as the department's information officer for the Miles City region. His holiday gift to *MO* readers begins on page 24.

In another kind of article, "Rattling for Bucks" (page 28), he explains a technique that will interest serious deer hunters.

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When people think of Montana and hunting, they usually think of elk or deer or moose. But sale of federal duck stamps indicates a growing interest in waterfowl hunting in the state. Montana lies in the middle of two major flyways—the Central and the Pacific—and **Roger Fliger** writes that the state's waterfowl hunting potential "has hardly been touched." Further, the "overall picture looks promising." Fliger also provides some helpful information on waterfowling equipment, decoys, dogs and regulations and lists some of the problems that loom for waterfowl in the state. Fliger collects and carves decoys and is a member of Ducks Unlimited and the International Wild Waterfowl Association. He was the department's information officer in Great Falls, the department's education specialist in Helena and also worked as a public relations officer for the Iowa Conservation Commission before coming to Montana. He is now supervisor for Region 5 (Billings). Turn to "The Best of Two Flyways" on page 31.

Wildlife Shorts

Three different types of weasels inhabit Montana—the least, longtail and shorttail. The least weasel has a short tail without a black tip. The longtail and shorttail both have black-tipped tails.

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Most leeches inhabit fresh water and are nocturnal, although they may be attracted by food during daylight.

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The fastest recorded speed for a butterfly is 20 miles per hour (North American monarch).—*Vince Yannone, youth educator, Conservation Education Division*

The Best of Two Flyways

by Roger Fliger

THE SWIRL OF WINGS in the predawn, the soft lap of water against whispering rushes and the anticipation of a day removed from the hustle of our civilized world all have been beautifully portrayed by scores of authors; however, little appears in outdoor literature concerning Montana's storehouse of ducks, geese and swans—or the fundamentals of where, when and how to hunt them.

Montana always has been—and probably always will be—identified in the minds of most as a "big game" state; yet, federal duck stamp sales indicate a growing interest in waterfowl hunting in Montana. Some 34 species of waterfowl have been reported in the state, including 27 species of ducks, five species of geese and two species of swans.

Surface-feeding or "dabbling" ducks are primarily fresh-water ducks that nest on dry land near ponds, marshes, rivers or other shallow bodies of water. They forage by "tipping up" rather than by diving for food, and include such popular sporting species as the mallard, pintail, gadwall, American widgeon, shoveler and various teals.

Diving ducks differ from surface-feeding ducks in several respects. Their legs are situated farther back on the body, so they are less adept at walking on land; their webbed feet are larger, increasing diving efficiency, and their bills are generally broader, heavier and better adapted for underwater feeding. Divers commonly seen in Montana include canvasbacks, redheads, lesser scaup, ring-necked ducks, goldeneyes, buffleheads and mergansers.

Of the five species of geese reported in Montana, only the Canada goose nests in the state (for more information on Canada geese, see the Sept./Oct. 1979 issue of *Montana Outdoors*). Snow geese migrate through in large numbers in spring and fall, at times numbering from 300,000 to 500,000. The other three species are the brant (rarely seen in Montana), the white-fronted goose and the Ross' goose.

The trumpeter swan, which breeds in Montana, can be observed in Yellowstone National Park and at the Red Rocks Lake National Wildlife Refuge. Although once numerous throughout the West and Midwest, by the turn of the century the trumpeter had been nearly exterminated. Only a few thousand birds remain today, primarily in isolated parts of Alaska and British Columbia.

Whistling swans migrate through Montana, at times concentrating in the Flathead Valley and Freezout Lake areas. A limited hunting season is conducted on whistlers,

photo: Mike Logan

with 500 permits issued by the Department of Fish, Wildlife and Parks. These permits are valid only in Teton County, and most swans are taken at the Freezout Lake Wildlife Management Area.

WATERFOWL REGULATIONS

To hunt waterfowl in Montana, you need a state wildlife conservation license, a state bird license and, if you are over 16 years of age, a federal waterfowl or "duck" stamp. For the past several years, between 25,000 and 30,000 federal waterfowl stamps have been sold annually in Montana.

Waterfowl regulations are set annually by the Montana Fish and Game Commission within a framework established by the U.S. Fish and Wildlife Service. Because Montana lies within portions of two major flyways (the Central and Pacific), hunting regulations differ across the state. The dividing line between the flyways runs north-south along the eastern boundaries of Hill, Chouteau, Cascade, Meagher and Park counties.

In the Central Flyway, the bag limit is currently based on the "point" system, in which a numerical value is designated for each species (and sometimes sex) of duck. When the hunter's bag reaches 100 points (it may exceed 100 points on his last duck, provided his bag totaled less than 100 points before shooting the last duck), he must stop hunting for the day.

In the Pacific Flyway, the daily bag limit for the past several years has been seven ducks (14 in possession), with no restrictions on species or sex (with the exception of canvasbacks, redheads and mergansers).

In general, the seven-duck limit in the Pacific Flyway offers a more generous bag, although the eastern Montana duck hunter who carefully selects his birds can do as well or better. For example, in the Central Flyway, pintails, teal, shovelers and gadwalls are typically "10-point" birds, while such ducks as canvasbacks, hen mallards and wood ducks carry higher point designations.

Because of the complexity of the regulations, waterfowlers must be able to identify the various species of waterfowl, both in the hand and in flight. Not only does this ensure compliance with the law, but it also makes waterfowling a much more enjoyable and rewarding pastime. Many excellent pocket-sized field guides to waterfowl identification are available, some of which are printed on waterproof paper. Because many ducks have not yet developed full plumage by the early part of the hunting season, a field guide that includes descriptions of the birds in "eclipse" plumage is of most value.

EQUIPMENT

Because waterfowl hunting in Montana typically involves cold weather, warm outdoor clothing is essential. Rain gear can be useful too, since cold, rainy days are often best for hunting waterfowl. Ducks and geese have keen eyesight, so all outer clothing should blend in with the surroundings. For early season hunting, this usually means clothing with a mottled or "camouflage" pattern; later in the season, with snow on the ground, white clothing may be best.

Footgear requirements vary widely, depending on time of year and hunting conditions. But since most waterfowl hunting is done in or near the water, hip boots—and sometimes chest waders—are highly desirable. You will have to choose between insulated and noninsulated boots, depending on when you plan to do most of your hunting. Because some of the best waterfowl hunting in Montana comes during late fall, most hunters lean toward the insulated variety. For hunting on bitter-cold days, you may need waders for setting out decoys and felt-lined shoepacs for wearing in the blind or pit.

Decoys and dogs are a traditional part of waterfowl hunting. Seeing a flock of ducks or geese pitch into a carefully laid out decoy spread (right photo: Mike Crider), or watching a retriever (photo: Dave Books) do the work it was bred and trained for, is as enjoyable to many hunters as bagging the birds themselves.

Shotguns ranging from 10-gauge to the .410 can legally be used for waterfowl, but unless you are a scattergun expert, you should avoid the smaller gauges. The 12-gauge is by far the most popular with waterfowl hunters, since it is effective at maximum range (40-45 yards), yet reasonably light to carry and easy to handle. Most hunters use a modified or full choke for waterfowl hunting, with a barrel length of 28 or 30 inches.

Shot sizes for waterfowl hunting generally range from No. 2 to No. 7½. Most duck hunters prefer Nos. 4, 5 or 6, although 7½ can be effective on ducks decoying at close range. Tests have shown, though, that on mallard-sized ducks, No. 4 shot performs best over a wide range of conditions, especially later in the fall when birds are fully feathered and at peak weight.

Binoculars should be as much a part of a duck hunter's equipment as his shotgun. They are useful for spotting waterfowl concentrations, detecting major movements or feeding patterns and identifying species.

Most hunting for ducks and geese over water requires use of decoys, and almost all hunting over dry land also utilizes them. While some hunters like to jump shoot waterfowl along small streams or sloughs, or pass shoot along large rivers and lakes, few will argue with the thrill of bringing a flock of ducks or geese into a decoy spread.

Most of the duck decoys used in Montana are mallard decoys. Pintail decoys aren't commonly used because most of Montana's pintails have already started their southward migration by the time duck season opens. However, large concentrations of local and migrant pintails have stayed at

Freezout Lake near Fairfield and in the Broadview area near Billings in the last two years, which may make use of pintail decoys in these areas desirable. A few Montana hunters use layouts of bluebill (scaup) decoys on large bodies of water where diving ducks tend to gather.

Montana goose hunters use from as few as a dozen decoys in areas where geese are observed feeding consistently to upwards of 100 in large fields where the birds do considerable manuevering before settling in. In recent years, "magnum" duck and goose decoys (which are several times actual size) have become popular because of their greater visibility.

While major flights—when migrating ducks suddenly descend in vast numbers—are the stuff of duck hunters' dreams, there are usually smaller flights throughout the fall and early winter. Local flights normally take place in the morning and evening, to and from feeding and resting areas. Decoys should be placed with this pattern in mind. But keep in mind that waterfowl may feed any time of the day or night prior to bad weather, or when they are preparing for long flights.

That calls help attract birds to the decoys is a well-known fact; expert duck and goose callers can work magic with their calls and, in some cases, with their voices alone. However, too much calling, or inexpert calling, has probably driven away more birds than good calling has brought in. Unless you're an expert, a rule of thumb goes something like this: If the birds are coming toward your spread, don't call; if they are moving away, use the call. As you develop more skill, you will be better able to judge when and how much calling is appropriate. Sometimes even good calling doesn't seem to help; if you are on a large waterfowl area, and competing against a dozen other callers plus a thousand wild birds, you might as well leave the call at home.

Blinds for duck and goose hunting range from hastily thrown together collections of reeds or marsh grass to elaborately constructed affairs with all the comforts of home. Pit blinds, which are below ground level, can be simple holes dug in a field or sandbar, or boxes constructed of wood, steel or plastic and sunk into the ground.

Much has been written about duck hunting boats, which are usually designed especially to fit the needs of various geographic areas. The pirogue, Barnegat Bay sneakbox, mud boat, bateau or john boat and canoe are a few of the varieties used in different parts of the country. If you decide to buy a boat for duck hunting, your primary consideration should be the type of water on which you will be hunting. A boat designed for shallow marshes may not work well—or be safe—on large lakes or fast-moving rivers.

Dogs have been a traditional part of waterfowl hunting since the days of the market hunter. It is the obligation of every hunter to recover his shot birds, and a retriever can simply do this far better than a man. The three most popular breeds for waterfowling—the Labrador, the golden and the Chesapeake Bay—are all excellent dogs for Montana conditions (for more information on the retrieving breeds see "More than Man's Best Friend—Retrievers" in the Nov./Dec. 1979 issue of *Montana Outdoors*).

One mistake beginning waterfowlers make is not using a second or third shot to kill a wounded duck that is down on the water. While most hunters consider it unethical to shoot a healthy bird on the water, if a wounded bird has its head up and can swim, it should be shot again. Even the best of retrievers is no match for a ⊆ng-tipped duck that can swim and dive until it escapes. Some hunters carry a few loads with Nos. 7½ or 8 shot just for this purpose, since a duck riding low in the water can be surprisingly hard to hit with larger shot.

THREATS TO WATERFOWL POPULATIONS

The rugged, folded mountains of the West, the numerous river valleys and the gouging caused by the retreating glaciers have given Montana water areas that produce an abundance of waterfowl. These wetlands are productive and important. Nature stores water in these areas to be ab-

sorbed into the land to recharge subterranean aquifers. Surplus water trapped in this way also helps to reduce damaging floods.

While Montana has not experienced the wholesale drainage problems that have taken place in other states, thousands of acres of marsh, backwaters and old river oxbows have been filled in to make way for roads, housing developments, agriculture and railroads.

To offset drainage of wetlands in the eastern part of the state, thousands of farm ponds and reservoirs have been built. These ponds and reservoirs have increased waterfowl production in areas with relatively low potential under ordinary conditions.

A new threat to wetlands is drainage to combat saline seep, the leaching of earth salts to the ground surface in low-lying areas. While saline seep is a serious problem that reduces production on agricultural land, solving the problem by drainage programs may prove of questionable value.

Type "C" botulism is a disease that has taken countless numbers of waterfowl throughout the West. The toxin is formed in an oxygen-free environment, such as in the bodies of dead microorganisms. As many as 50,000 dead birds were picked up in the Broadview Marsh area near Broadview in 1979 by U.S. Fish and Wildlife Service personnel. The birds were buried in an attempt to slow the mortality among migrating birds.

Other diseases that take a high toll of waterfowl include bird cholera and Dutch duck disease. Disease often runs rampant where large numbers of birds are concentrated for periods of time. The discharge of water from impoundments on major rivers often results in such concentrations of waterfowl.

If open water, food and gravel are available, ducks and geese will attempt to winter at latitudes far north of their traditional wintering grounds. This sets the stage for a waterfowl tragedy if prolonged periods of deep snow occur. The birds become too weak to migrate and fall victim to disease and malnutrition.

CONCLUSION

Through sportsman's dollars, much habitat for waterfowl, other birds, animals and fish has been protected Since 1934, the federal duck stamp program has finance the preservation of 2.3 million acres of waterfowl habitat across the nation. Pittman-Robertson, a federal-state matching fund program, has been responsible for the protection of many more millions of acres. Ducks Unlimited, a private organization founded three decades ago for the purpose of acquiring and maintaining waterfowl breeding areas in Canada, has spent over $60 million to improve conditions for waterfowl.

What does the future hold for Montana's duck and geese populations? With continued acquisition and preservation of wetlands, and continued building of ranch ponds and water spreading projects, bird numbers should increase. The waterfowl hunting potential in Montana has hardly been touched and the overall picture looks promising.

One thing is certain: Whether you hunt the Central Flyway or the Pacific, Montana offers some of the best waterfowling in the West. ■

photo: Catherine Ream

THE SAGEBRUSH REBELLION *continued*

magazine and made several issues of the New York Times and Washington Post. Leading public land administrators made numerous trips west to address the issue, and Secretary of the Interior Andrus (former governor of Idaho) issued an official statement on the subject.

In Montana, the Sagebrush Rebellion is less than an all-consuming interest. Montana is second only to Texas in the amount of nongovernment land—over 65 million acres—and the BLM, target of the protest, administers only 8.6% of Montana's surface acreage. While support for the issue exists in every county, most of the push seems to come from eastern Montana, especially the rural ranching counties surrounding Fort Peck Reservoir where the BLM has more than half of its holdings. While in some parts of the West, mining, oil and gas exploration and logging seem to be strong elements in the rebellion, in Montana grazing appears to be the main issue.

The strong feeling in northeastern Montana seems related to: (1) U.S. Fish and Wildlife Service plans for more aggressive management of the Charles M. Russell National Wildlife Refuge, (2) the BLM's Missouri River Breaks and Prairie Pothole Grazing Environmental Impact statements, (3) the BLM's statewide review of roadless tracts for wilderness status and (4) possible increases in grazing fees to what the BLM considers fair market value. All these actions challenge traditional grazing practices and threaten a long-standing livestock industry that is the economic base of the area.

In June, the Republican Party in Montana formally endorsed the Sagebrush Rebellion, and there are tentative bipartisan plans to introduce Sagebrush Rebellion legislation in January at the next state legislative session.

But the rebellion has *not* enjoyed complete success, even in the West. Gov. Bruce Babbitt (D-Arizona) vetoed his state's sagebrush legislation, but his veto was later overridden. In Idaho, the state Senate could not muster the two-thirds vote needed to amend its constitution to lay claim to 12 million acres of public land. Gov. Dick Lamm (D-Colorado) cooled the issue in his state by calling

C. M. Russell's "Rawhide Rawlins" (Mackay Collection; courtesy Montana Historical Society).

The Money Issue

A number of western governors and legislators are trying to get a handle on the fiscal effects of a transfer of land ownership from the federal government to the states, and several studies are under way. A draft of one prepared by Utah State University for Gov. Scott Matheson warned that it would cost that state $42.7 million annually to manage Bureau of Land Management (BLM) and Forest Service (FS) lands.

Last year, use of the public lands managed by the BLM in the 12 western states generated roughly $737 million in receipts. Of that total, $324 million (or 44%) was returned directly to the states in various revenue-sharing programs; $253 million (or 34%) was distributed to the Reclamation Fund and other programs indirectly of benefit to the states. Only $160 million (or roughly 22%) went to the U.S. Treasury. At the same time, the states received $83 million in in-lieu tax payments, and an additional $257 million was spent by BLM in program management in those states. Again, receipts were $737 million, distribution $917 million. In real terms, it's a net loss operation throughout the West.

In only three states do receipts from timber sales, mineral leases, grazing fees, etc., *presently* exceed the federal investment in land management: New Mexico and Wyoming, as a result of high mineral revenues, and Oregon, because of high-value timber harvests. Except for Oregon, the key is mineralization. Any state with substantial mineral values would be likely to fare well over time if the land *were* transferred.

Can the states afford to manage the public lands? They *could*. They could increase taxes and sell some of the land and, in the case of the energy states, bet against future revenues. The question is whether the nation's interests are best served by such management.

With time, money, people and an honest commitment to balanced resource management decisions, states could manage the public lands within their boundaries. That's not the issue. The fact is: *These lands aren't theirs to manage*. They belong to all of us. We all pay for their management and, to one extent or another, we all benefit from their use.

Experience shows that few states actually "manage" their state lands. Those states which have not already sold the lands "administer" rather than "manage" these lands, principally to generate maximum economic return to the states' school funds. The major activity is issuing use permits to commodity users who are allowed to prohibit the public's use of lands they lease. Even in commodity areas, little on-the-ground management monitoring occurs. Virtually no attention is given to noncommodity values—recreation, wildlife habitat, soil and water management, etc. The reason it costs less to manage state lands is because far less is done with them, fewer services are provided and management encompasses fewer uses. They generate more income per acre because the land is often more valuable than BLM land and because nonprofit-making management responsibilities are largely ignored.—*Bureau of Land Management*

for a close study of the costs and implications of taking control of public lands. Nevada has declined a federal challenge to press its legal case and the Nevada Legislature appears to be on shaky ground with its own constitution. No state has made an effort to support Nevada's sagebrush legislation or its regulations.

In Montana, both the Great Falls Tribune and the Billings Gazette have editorialized against the movement. The Gazette called it a land grab and a threat, and the Tribune said it was smart for Montana not to jump on the bandwagon. Both papers pointed out the problems of free public access if the lands eventually became private.

The Western States Land Use Commission split over whether the states should take over all of the BLM and FS lands, or just unappropriated land. After heated discussion at the Republican convention in Detroit, it was decided not to include the Sagebrush Rebellion in the party's national platform for the sake of party unity.

The issue is still far from clear-cut, and what at first blush sounded like a good idea to some could make bad law.

There is some question about just exactly how Montana would handle more than 8 million BLM acres and possibly 16.7 million FS acres. It's one thing to take them, and another to control the very real problems of overgrazing, motor vehicle abuse, water pollution and archaeological vandalism. Where would the state get the millions of dollars necessary to enact a multiple-use management program? Do the grazers of federal land really want the state's grazing fees? The economics of federal management are not always good (see sidebar). In Montana, the BLM spends roughly $3.2 million to administer a grazing program that generates $2.2 million in grazing fees. The same holds true with national forest management, where logging roads sometimes cost more than the revenue from the harvested wood.

And what if the state decides to—or must—sell lands, thus putting them into private ownership? Will stockmen be able to compete with mining and oil interests? Will family and small owners be able to compete with large corporations? Will Americans be able to compete with foreign investors?

Wouldn't state management eventually become like federal management? Certainly, all the competing elements are present. Voters in Missoula, Bozeman and Helena do not share the same interests as voters in Glasgow, Jordan or Miles City. There will still be a demand for such things as wilderness, recreation, watershed protection, pollution control, wildlife opportunities and access.

How about public land access? *Field & Stream's* Associate Editor Ted Trueblood and *Outdoor Life's* respected writer Richard Starnes both wrote articles this year strongly opposing the Sagebrush Rebellion, mainly because of the movement's potential to end access to land and associated recreation values. Their opposition takes on new significance when one realizes that in 1978, it was estimated there were 196 million recreational visits to public lands.

THE FUTURE: NEGOTIATION, COMPROMISE

While the Sagebrush Rebellion has some support throughout the West, especially in rural areas where people's livelihood or a community's economy are closely tied to public land, it does not appear at present that the states are in a position to take over the public domain or that either Congress or the courts is prepared to release the federal holdings.

The real issues in the Sagebrush Rebellion are how to handle increasing commercial competition for resources on the public domain and how to husband the nonrenewable resources, while at the same time increasing the productivity of the renewable resources—and all for the common good. Some economists argue that, in the short term, private initiative and free enterprise will generate the greatest economic return. However, aren't we interested in more than just short-term economic productivity?

The New York Times (9/2/79) reported that in 1978 the Council on Environmental Quality commissioned a comprehensive study of federal land and resource policies by an independent consultant, Aspen Systems Corporation. The main conclusion was that perfect land management requires both consummate planning and control but that these are "at ideological odds" with national traditions of individual liberty. So it seems that continuous negotiation and compromise are virtually inevitable. In short, there is no quick fix. A simple change of administration would not solve the problems, it would probably compound them.

In many respects, the rebellion has already succeeded in capturing the attention of the land management agencies. Dialogue with local groups is improving. But much legislative change has occurred in a relatively short time and for many reasons, local interests have simply not been properly informed.

The BLM is working with the Western Conference of the Council of State Governments to point out how states might better affect public land policies and plans. The BLM is also funding a project with the National Governors Association to resolve long-standing western range management issues. And the BLM has reached agreement with the National Association of Counties on making federal plans more consistent where local policy, programs and plans exist. Last, the BLM continues to develop new cooperative arrangements with state and local governments and private interests in coal leasing, livestock management, energy facility siting, land sales and several other areas.

The BLM is required by Section 202 of the Federal Land Policy and Management Act to consult with local interests and to try and make its program consistent with local feelings. It was one of the recommendations of the 1964 Public Land Law Review Commission that state and local governments be given a more effective role in land-use plans and decisions.

Perhaps it is true that federal management of public lands is less than perfect. But these errors are correctable and, most important, they are correctable in the public interest and in the forums of democracy. Rather than disposing of our federal lands—which rightfully belong to all Americans—we should be working to provide federal management that is responsive to local needs and desires.■